

**Teacher Learning in a Community of Practice: A Case
Study of Teachers of Economic and Management Sciences**

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Teacher Learning in a Community of Practice: A Case Study of
Teachers of Economic and Management Sciences

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ABSTRACT

Conceptualising teacher learning in terms of participation in a teacher learning community is a relatively new phenomenon in South Africa. This study explores the usefulness of applying a social practice theory of learning to a community of novice Economic and Management Sciences teacher learners involved in the Teaching Economics and Management Sciences (TEMS) teacher development project. It examines the influence of contextual constraints, teachers' biographies and professional career trajectories on teachers' ability to participate in a learning community. By drawing on Wenger's theory of learning in a community of practice and Wenger et al's stages of community development framework, it also illuminates and theorises the potential that a community of practice framework has for teacher development.

Wenger's framework offered important insights that informed and shaped the development of the TEMS programme. It also provided a useful tool for analysing teacher learning as constituting four components, namely, meaning, practice, identity and community. The complex relationship that exists between these different components of learning is examined. The study offers a critique of the feasibility and appropriateness of using Wenger's framework for analysing a teacher learning community.

Methodologically, the tenets of symbolic interactionist ethnography were employed in the collection of data for this study. An exposition of the complexity and challenge of adopting the dual role of researcher as observer *and* participant is presented. An analysis

is also provided of the methodological challenge of gaining access and acceptance in a South African education research context.

The study examines how the essential tension in teacher professional development, namely, that of curriculum development *and* deepening subject matter knowledge is managed in a teacher learning community of novice Economic and Management Sciences teachers. It reveals the potential that a learning community framework has for teacher learning through different levels of participation, and points to the importance of the input of an outside expert, particularly during the early stages of development of a community of teacher learners who lack subject content knowledge. It argues that teacher learning communities present a fruitful and viable alternative to the current 'deficit' models of teacher development that typify the present South African teacher development scenario, as teacher learning communities suggest a conceptual reorientation of the discourse on teacher development.

DEDICATION

This thesis is dedicated to the memory of my father, Moonsamy Maistry and my father-in-law Nadasen Mannaru, two remarkable gentlemen.

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- I owe a debt of gratitude to the teachers in the TEMS programme for allowing me into their busy lives.
- Finally, I thank the National Research Foundation and the Spencer Foundation for the financial assistance provided for this research study.

DECLARATION

I, Suriamurthee Moonsamy Maistry declare that this thesis is my own work and has not been submitted previously for any degree at any university.

Suriamurthee Moonsamy Maistry

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LIST OF ACRONYMS

TEMS	Teaching Economic and Management Sciences
RNCS	Revised National Curriculum Statement
EMS	Economic and Management Sciences
GET	General Education and Training Band
DoE	Department of Education
INSET	In-service Education and Training
ELRC	Education Labour Relations Council
SAQA	South African Qualifications Authority
SACE	South African Council for Educators
NQF	National Qualifications Framework
NCHE	National Council for Higher Education
GEAR	Growth, Employment and Redistribution
HEQC	Higher Education Quality Committee
CHE	Council for Higher Education
ETQA	Education and Training Quality Assurance
SGB	Standards Generating Body
NSB	National Standards Body
NSE	Norms and Standards for Educators
ECD	Early Childhood Development
FET	Further Education and Training
HET	Higher Education and Training
ABET	Adult Basic Education and Training

CHAPTER ONE

AN OVERVIEW OF THE RESEARCH

1.1 INTRODUCTION

Day and Sachs contend that:

The increased investment in practitioner inquiry as a way of learning, in professional development schools, or networked learning communities ... are ... signs that CPD (continuing professional development) is becoming understood to have a range of forms, locations and practices appropriate to its many purposes. Yet both time to learn and the right timing are essential to success (Day and Sachs 2004:29).

In the above quote, Day and Sachs (ibid.) present what they refer to as an optimistic view of a new understanding of the purposes and forms of continuing professional development. They assert that internationally, there still is a substantial dearth of understanding with respect to the outcomes of teacher professional development as it occurs in its various forms, and that continuing professional development “is alive, but not thriving” (ibid.:29).

Against a background of fragmented and inequitable apartheid education, South African teacher professional development is diverse in terms of its service providers, contexts, and clients and as such presents unique challenges for continuing professional development. The issues, tensions and problems of teacher professional development in South Africa are indeed multi-faceted. Later in this chapter (Section 1.3.3), a discussion of the challenges of professional development in South Africa is presented.

Adler, writing from a South African perspective, comments on *one* significant aspect of continuing professional development of teachers as follows:

There is little contention that teachers need to know the subject matter they are teaching, and moreover, that they need to know how to present this clearly to learners. The issue is how to integrate *further learning of the subject* with *learning about how students in school acquire subject knowledge* (Adler 2002:4).

In describing the subject-pedagogy tension in teacher development programmes, Adler notes that teachers must be competent in terms of both the subject matter knowledge they teach and the ways in which to teach this subject matter knowledge. She highlights an important challenge that faces teacher development, that is, to integrate 'further learning' of subject matter knowledge with subject pedagogy (ibid.). However, many teachers in South Africa have a limited conceptual knowledge base. This problem has its roots in the poor quality of education many teachers were subjected to under apartheid (Taylor and Vinjevold 1999). The challenge becomes more complex in a teacher development programme when teachers have limited or no subject matter knowledge in the subject they are expected to teach. This challenge is amplified in South African education, which has been undergoing unprecedented reform. The stark absence of substantive teacher development programmes to address teachers' needs has manifested itself in some teachers employing alternative mechanisms for learning. One such mechanism or model is a teacher learning community. This usually takes the form of a voluntary network or grouping of teachers across schools. These teachers group themselves according to teaching subjects (learning areas).

The above discussion has particular significance for the teachers involved in the TEMS (Teaching Economic and Management Sciences) teacher development programme. This particular community of practice was established in the Mariannhill-Shallcross region of KwaZulu-Natal in late 2002 in order to address the needs of novice Economic and Management Sciences (EMS) teachers, and it is this programme that forms the basis of the present study.

Grossman et al (2001) argue that because most schools are intellectually barren, teacher community offers hope to old and new teachers in a way that implies that teaching does not have to invoke or imply intellectual suffocation, but rather raises hope for the potential that teacher learning communities have for teacher development. However: "(W)e cannot expect teachers to create a vigorous community of learners among students if they have no parallel community to nourish themselves" (Grossman, Wineberg and Woolworth 2001:958).

In this chapter, I present the purpose, scope and rationale of the present study which explores the nature of teacher learning in the TEMS programme. I then provide a partial account of the South African teacher development context. The purpose of sketching the broader context is to locate the TEMS programme within national policy development concerning curriculum and teacher development. As will be seen, the need for the TEMS programme was rooted in national curriculum change, while the subsequent form it took had its origins in the inadequacy of teacher development programmes to support radical curriculum change. The chapter concludes with an overview of the research study by providing a preview of the chapters to follow. The structure of this chapter is as follows:

- Origins, rationale and purpose of the study
- The South African teacher development landscape post 1994: A brief overview
- Preview of chapters to follow
- Conclusion

1.2 ORIGINS, RATIONALE AND PURPOSE OF THE STUDY

1.2.1 Origins of the study

The New Revised National Curriculum Statement (RNCS) for grades R-9 (Schools) makes provision for the inclusion of Economic and Management Sciences (EMS), a new learning area, in the senior phase in the General Education and Training (GET) band. In the previous primary school curriculum commerce-related subjects were non-existent. Primary school teachers generally held qualifications that lacked a commerce element. Although a small number of Ex-model C schools and private schools did incorporate basic elements of entrepreneurship into their curricula, these were 'one off events' designed for school fetes and fairs. Teachers in the senior phase suddenly found themselves in a position of being required to re-skill and to develop the Economic and Management Sciences curriculum for implementation with little or no help from the Department of Education (DoE). Of particular significance to this study is the fact that

teachers lacked content knowledge required to teach this 'new' discipline in the senior GET phase. The introduction of EMS in the primary school had thus created a need and a demand for EMS INSET in South Africa.

In 2002, at the University of Natal Faculty of Education's annual principals' day workshop, there was an overwhelming request from principals for workshops to assist Economic and Management Sciences teachers in primary schools, and it was at this meeting that exploratory ideas for the TEMS project were first mooted. Thus, unlike much INSET such as 'OBE Training' which many teachers felt was imposed on them, the TEMS had its origins in a request from those at the proverbial 'chalkface'.

In September 2002, the Commerce Education Curriculum Development team¹ of the University of Natal held a daylong Economic and Management Sciences workshop for teachers of EMS. This workshop was successfully conducted on a Saturday with twenty-two teachers attending. The programme for the day included a slot that outlined the initial ideas of the TEMS project. During this session I learnt that teachers in the Mariannhill-Shallcross area had in fact already organised a structure (which they referred to as a cell group) that was a forum where teachers in a learning area met regularly to discuss curriculum issues and to share ideas and resources. A cell group for the EMS learning area had just recently been formed. The coordinator highlighted some of the difficulties that the group was experiencing: EMS teachers needed help, as they were uncertain of the expectations of the new learning area. Of significance was that this 'community of practice' was a structure that had been conceived by a group of interested teachers eager to support each other in the absence of support from the Department of Education. This presented an excellent research opportunity for me to study the nature of teacher learning in this context while making a professional contribution to the work of this group.

The TEMS (Teaching Economic and Management Sciences) research project was thus conceived at the end of 2002. The focus of the research study that was conducted alongside my professional contribution was on the nature of teacher learning in a

¹ I was the team leader.

community of practice, and in the context of curriculum change. The project entailed a study of how teachers cooperated, collaborated and made meaning within this learning community.

1.2.2 Rationale for the study

Conceptualising teacher learning in terms of participation in a teacher learning community is a relatively new phenomenon in South African teacher development. In South Africa, Graven (2002) has conducted the *only* significant research study to date that analysed the workings of a teacher learning community, using ‘communities of practice’ as a theoretical framework. This was a study of a group of Mathematics teachers involved in the Programme for Leader Educators in Senior Phase Mathematics Education (PLESME). As the only significant local study on teacher learning communities, the Graven study therefore had important implications for the current study. Graven presented useful insights into how one could manage a dual role in this project, namely, how to deal with the tension of making a professional contribution to the teacher learning community *and* performing a research role. Although Graven did not set out to test Wenger’s model, Graven’s work provided story evidence that Wenger’s model and its associated constructs *do* in fact have significant potential for analyzing the workings of a *teacher* learning community. It is important to note that Wenger had developed his framework based on research carried out in the corporate world where the master-apprentice model for learning is valued. Graven was able to demonstrate the specific application of the Wenger’s core concepts of ‘meaning’, ‘practice’, ‘identity’ and ‘community’ to a *teacher* learning community in a South African context, a configuration that was the empirical field for the current study.

The relationship between the present study and the Graven study is discussed in Section 1.2.3 below.

It was hoped that the present research study would illuminate and theorise the potential that a community of practice framework has for teacher development, teacher development programme design, and research into teacher development. The study

acknowledges the importance and peculiarity of different 'teacher learning' contexts. It was believed that the study would enhance our understanding of teacher development in the South African context.

Secondly, this research study was intended to inform my own professional practice as a teacher educator involved in the pre-service and in-service training of teachers of commercial subjects. The literature on commerce education is based on the assumption that pedagogy is coherent with the discipline. This study examines the extent to which the constraints of different contexts influence the way teachers learn and practice Economic and Management Sciences and its associated pedagogy. It was hoped that this research would inform the commerce teacher education programmes that I design in terms of better preparing commerce teachers.

Thirdly, my eagerness to initiate and sustain debate in the area of commerce education research stem from the gaping void that exists in school-based commerce education research in South Africa. While countries like the UK, USA and Australia have adapted and refined their own approaches to commerce teaching, the pedagogy of South African school commerce education has remained stagnant. It was hoped that this research study would trigger a debate that would begin to interrogate the state of school commerce education in South Africa.

As stated earlier, the presence of large numbers of unqualified EMS teachers had created a demand for EMS teacher development. EMS teaching and learning was a relatively new phenomenon in the South African education context, and as such had not been subject to intensive research. The EMS learning area itself needed to establish its place in the school curriculum in terms of how it was being practised. Research and curriculum development into the high priority subject areas like Languages and Mathematics is often at the expense of a 'new' learning area like EMS.

1.2.3 Relationship between the TEMS study and the PLESME study

As noted above, in the area of teacher learning and teacher learning communities, Graven (2002) conducted a significant study entitled: *An investigation of mathematics teachers learning in relation to preparation for curriculum change*. The work of Graven (2002) is important to the present study as it embraced the usefulness of social practice theory (in particular the work of Wenger 1998) in understanding teacher learning through participation in a learning community, an approach common with the present study. While there are similarities between the present study and the Graven study, the present study was *not* a replication of the Graven study as both studies have distinct theoretical and methodological differences that arise mainly out of their initial conceptions.

In the present study, the research process was informed by the tenets of symbolic interactionist theory. The theoretical framework for analysing the *stages of development* of a community of practice as presented by Wenger, McDermott and Snyder (2002) was adopted, an area of analysis that the Graven study did not pursue. This is an important difference as the present study tracked and analysed the development of a community of EMS teachers as the community progressed through its various stages. It analysed different levels of membership as theorised by Wenger et al (2002) and drew on the work of Bourdieu (1986) in order to analyse the development of *individuals* within the community. Of significance is the fact that the EMS community of teacher learners was a *naturally* occurring phenomenon that presented itself as an ‘opportunity’ sample. The TEMS programme, which became the empirical field for this study was designed with the intention of creating conditions for eventual learning community autonomy.

The PLESME ‘sample’ was a sample that could be viewed as a ‘contrived’ grouping of Mathematics teacher volunteers whose schools had been identified by local education department officials as schools that could participate in the project. These Mathematics teachers had enrolled formally for an accredited and funded in-service programme. Four teachers in the sample had no formal mathematics teacher education. Of these teachers, three had been teaching Mathematics for 20 years, 12 years and 9 years respectively while the fourth had no Mathematics teaching experience. The remaining teachers held

some formal Mathematics teacher education qualification and were practising Mathematics teachers, with Mathematics teaching experience ranging from 3 years to 13 years.

The PLESME programme focussed on enabling teacher engagement with mathematics curriculum changes. This represented working within an existing, established, researched and well documented discipline that was undergoing curriculum change. This was in stark contrast to the TEMS programme that worked with novice EMS teachers working in a 'brand new' new field of study that was essentially a construction on the part of the Department of Education rather than a formal 'discipline'. As such, prior research into this new learning area was non-existent. The history, nature and scope of this learning area are discussed in Chapter Two.

The sample in the present study comprised *novice* EMS teachers, that is, teachers who were teaching the learning area for the very first time. Furthermore, no teacher in the sample possessed any formal qualification in the field of commerce education. Subject content knowledge amongst the participating teachers was non-existent, an issue that gave rise to the formation of the teacher learning community. Teachers who had formed the TEMS grouping were basically operating in 'survival mode'. This has significant implications for the conceptualisation of the research study *and* the nature of the professional development initiative.

PLESME had as its vision and primary aim, the need to develop 'lead teachers' in Mathematics, who would assume a range of leadership roles in the contexts in which they worked. The programme entailed a formal two-year INSET programme based at a university. It was a funded, accredited and registered programme with the South African Qualifications Authority (SAQA). Participating teachers who had completed the programme would have received certificates and credits that they could transfer to other SAQA registered courses. Being a registered programme based at a university, the PLESME programme would have had to comply with the formalities of any formal credit bearing university programme in terms of a developing a formal curriculum, course

outlines, coursework materials and having a formal assessment strategy. Graven (2002) describes PLESME as a 'classroom-focussed intervention'.

The TEMS programme on the other hand was a spontaneous, unprompted, naturally occurring network. It was 'self-initiated', informal and represented a purely voluntary association of teachers, distinctly similar to Wenger's conceptualisation of the formation of communities of practice (Wenger 1998). While the TEMS programme did have a structure, the participating teachers largely determined the curriculum and the frequency and nature of meetings. The 'aim' of the TEMS programme was to develop very basic competency in the subject matter of the new 'discipline'. The issue of accreditation and assessment did not apply in the TEMS programme. TEMS relied on the generosity of the participating schools and teachers who willingly provided the venue and absorbed some of the operating costs in terms of stationery, printing telephone and fax expenses. I was fortunate to have been granted research funds that I used to finance some of the operating costs of the project.

The present study theorised the methodological issue of gaining access to teachers' classrooms in a South African context. It drew attention to the fact that while much has been written about gaining access in first world contexts, there is a dearth of literature on the challenges of gaining access in diverse South African school contexts. A further methodological difference was the use of independent observers. These independent observers (university academics) were invited to observe TEMS workshop sessions and to compile observation reports on the workings of the TEMS community. This form of triangulating was important as it presented useful data from differing observer perspectives.

With regard to the role of the researcher, the present study embraced the approach adopted by Graven in the PLESME study where the role of the researcher was that of participant observer in the PLESME practice (where participation took the form of coordination of the practice) and observer as participant in teachers' classrooms (observing teachers in classrooms). While a similar approach was used in the TEMS

study, the coordination functions were performed entirely by the TEMS coordinator. My role as participant was to make a professional input in the TEMS sessions. As the TEMS community progressed, the TEMS coordinator and core members began to assume greater control of the professional development issues, allowing me to play more of an observer role.

While there were several similarities in the findings of both studies, the most notable difference was that in the PLESME study the concept of ‘confidence’ emerged as a significant outcome of the programme. This led the researcher to proceed to theorize this notion of ‘confidence’ as it emerged in PLESME. This ‘confidence’ was strongly associated with teachers expressing confidence in their subject matter knowledge of Mathematics. In the TEMS programme, as we see later, while some teachers did allude to the notion of increased ‘general’ confidence, confidence in the subject matter knowledge of Economic and Management Sciences did not emerge as a significant finding. This was largely attributed to the fact that the TEMS teachers basically started from a ‘lay’ knowledge base of the Economic and Management Sciences learning area, while PLESME teachers were in fact *practising* Mathematics teachers.

1.2.4 Statement of purpose

The thrust of this research study was to explore the usefulness of applying a social practice theory of learning to a community of teacher learners. It also examined the influence of contextual constraints on teachers’ biographies and professional career trajectories, and on their ability to participate in a learning community. Of interest to this study was whether the community (a group of non-expert, novice EMS teachers) had the potential to eventually develop content knowledge in the EMS learning area without the conventional ‘teaching’ input of an outside ‘expert’. *Stated succinctly, the purpose of this study was to investigate Economic and Management Sciences (EMS) teachers’ learning in a community of practice, designed in accordance with the principles of social practice theory (as espoused by Lave and Wenger 1991; Wenger 1998 and Wenger, McDermott and Snyder 2002).*

Critical research questions:

1. What is the nature of teacher learning in an EMS community of practice?
2. Drawing on Critical question 1 with particular reference to Graven's (2002) work with Mathematics teachers, to what extent is social practice theory useful in explaining the nature of teacher learning in a community of practice?
3. Drawing on Critical questions 1 and 2, to what extent does social practice theory enhance our understanding of teacher development in South Africa?

1.2.5 The scope of the study

This research study was limited to a group of EMS teacher learners in primary schools who, out of need, had constituted themselves to make sense of and develop the new EMS curriculum for learners in grades four to seven. This was an ill-defined group of teachers who were socio-economically, ethnically and academically diverse, and who taught in starkly contrasting contexts. The thread that appeared to bind these teachers was the novel challenge they experienced in having to teach EMS, a learning area in which they had had no formal training. While the term 'novelty' may conjure up positive images, these teachers in fact had negative initial dispositions towards this learning area.

1.2.6 Contribution of this study

The literature on teacher development will reveal that teacher development through participation in teacher learning communities is a relatively new phenomenon in South African teacher education. This perspective, namely, learning in a community, attempts to recast the relationship between what people know and the settings in which they know.

It foregrounds the fact that the contexts in which people learn, and in which they are assessed, are inextricable parts of their knowledge.

The essential tension of professional development referred to earlier as *the* key question of professional development in South Africa, namely that of curriculum development *and* deepening subject matter knowledge, played itself out in this learning community. The study draws attention to the dilemma of how much guidance and structure should be brought into programmes. The importance of seeking an appropriate balance between presenting information and facilitating teachers' construction of new practices was an issue that the TEMS programme had to carefully negotiate.

Methodologically, this research study embraced the complexity and challenge of the researcher adopting the dual role of researcher and participant. It provides insights into how it might be possible to negotiate the dynamic and shifting roles that I adopted in this study: from an initial role of '*participant as observer*', I moved gradually towards the role of '*observer participant*', and ultimately attempted to fulfil the role of '*complete observer*'.

An analysis of the methodological challenge of gaining access and acceptance in the field is presented from a South African education research perspective. The study offers insights into the concepts of 'gatekeepers', 'reciprocity' and 'informed consent' as they may be applied in the South African context.

From a theoretical perspective, the work of Lave and Wenger (1991), Wenger (1998) and Wenger, McDermott and Snyder (2002) on learning communities as vehicles for learning is explored. The study also highlights the usefulness of this theoretical framework in the reconceptualising of teacher learning as relations of participation instead of the conventional teacher/learner dyad. At the same time, it offers a critique of the feasibility and appropriateness of using Wenger's framework for analysing a teacher learning community, and it draws attention to the challenges of applying Wenger's framework.

The data analysis will reveal that teacher learning had occurred for all participants in the TEMS teacher learning community, but that learning had occurred along different trajectories in respect of the four components of Wenger's social practice theory of learning, namely: meaning, practice, identity and community.

1.3 THE SOUTH AFRICAN TEACHER DEVELOPMENT LANDSCAPE POST 1994: A BRIEF OVERVIEW

The history of education and teacher education in South Africa up to 1994 has been well documented (e.g. see Welch 2002, Parker 2002). For the purposes of this research report, attention is focused on the teacher development landscape since 1994.

Irrespective of the country concerned, educational reform is seen as "critical to repairing, redressing, professionalising and changing current educational practices" (Adler 2002). Adler notes that this is particularly true of current South African educational change.

In 1994, the first democratically elected government was elected in South Africa. One of the most challenging aspects of its enormous task was to contend with a "segregated, fragmented authoritarian, dangerously unequal and inefficient education system" (Welch 2002:23). The post-liberation government was confronted with many dilemmas and hard choices in its efforts to transform apartheid education. It had inherited a complex education system comprising 18 education departments that serviced the different provinces, homelands and race groups. These 18 education departments were responsible for 105 colleges of education. In addition, there were 32 autonomous universities and technikons. The teacher education system was thus scattered, fragmented, expensive, and characterised by marked discrepancies in costs across different institutions.

For the majority Black population of South Africa, limited opportunities had existed for secondary or tertiary education after completing basic education. The success rate at secondary school level was low, with few Black students successfully completing high

school. Higher education opportunity for many Black students was limited to 'teaching or preaching'. "Teacher education was thus a strategic response to the lack of higher educational opportunities for the black population" (Sayed 2004:248). In many instances, secondary education was in fact teacher education (Welch 2002).

South African education thus finds itself in a peculiar situation. It is forced to embrace the curriculum reform agenda in a context that still manifests gross inequalities in society and education provision. There is an urgent need for redress in education especially in previously disadvantaged institutions. The advent of the new democratic state signalled the need for radical educational policy changes. Adler accurately captures the vision and philosophy that was envisaged for South African education as follows:

Curriculum (content, pedagogy and assessment) was to shift from fragmentation to integration, from low-order to high-order knowledge and skills, and from rote learning to active, critical engagement. Teachers were identified as key agents of change, pointing to significant and necessary roles for INSET in the new orientations to knowledge and pedagogy (Adler 2002:6).

Despite noble policy intention, however, there are indications that radical change is not easy to achieve in practice. For example, Harley and Wedekind (2004) argue that while recent policy (C2005) may reflect the social and political vision of the 'new' South African state, there is little evidence that such a vision is anywhere close to being achieved. What is becoming more apparent though is the reproduction of social class divisions in South African society.

Policy and practice in teacher education in South Africa is thus fraught with complexity, contradiction, and faces numerous dilemmas. Teacher shortages as result of the 'rationalising' of teacher training institutions and the effect of the AIDS epidemic are serious issues that South African education has to contend with.

1.3.1 A brief outline of policy development in teacher education since the mid-nineties

Policy development in teacher education has been prolific since the mid 1990s. While Welch is of the view that efforts to base educational policy in South Africa on sound research especially with regard to curriculum has at times been ‘visionary’ (Welch 2002), Harley and Wedekind argue that the most influential and radical policy, namely, “... C2005 did not arise from a ‘situational analysis’ of existing realities. Teachers, and probably most teacher educators, simply found themselves in a new curriculum world” (Harley and Wedekind 2004:199). Sayed (2004) concurs that South African education policy comprises symbolic gestures and government initiatives that are out of sync with the ‘realities on the ground’. He describes educational policy change in South Africa as ‘symbolic rhetoric’ (ibid.).

In 1994, the newly-elected government created one national and nine provincial education departments, in terms of the interim constitution. The interim constitution made provision for the establishment of new structures with legislative authority, such as the Education Labour Relations Council (ELRC), South African Qualifications Authority (SAQA), and the South African Council for Educators (SACE). In 1995, a significant development in education legislation was the establishment of SAQA and the NQF (National Qualifications Framework). Several policy documents emerged, including White Papers 1 and 2, and the NCHE (National Council for Higher Education) report. The National Education Policy Act and the South African Schools Act set out the objectives, roles and responsibilities for the national and provincial departments, and other education stakeholders. During this period, while broader structural and policy formulation had progressed quite quickly, the quality of education at the level of schools and classrooms remained unchanged (Parker 2002).

Nine new provincial government departments came into being in 1994. One of the first initiatives of the national DoE was to commission a national Teacher Education Audit. The focus of the audit was to analyse teacher demand, supply and utilisation, so as to

frame models for projecting future needs. It was also commissioned to conduct an evaluation of all teacher education institutions and programmes in relation to their capacity to provide in-service and pre-service teacher education. The audit revealed the existence of a diverse collection of colleges of education, with unique qualifications and curricula. There were approximately 150 public institutions providing teacher education to approximately 200 000 students. By 2000, these numbers had decreased to 82 public institutions providing teacher education to 110 000 students (Parker 2002).

In 1997, the Higher Education Act made all teacher education part of the higher education system. This shift changed colleges of education from being a provincial competence to a national competence, which resulted in the “radical transformation of teacher education...” (Parker 2002:5). This transformation took place when complex macro-economic policy was being advocated by the national government. In fact, during the period 1997 – 1999, a stringent fiscal framework was envisioned within the context of the Growth Employment and Redistribution (GEAR) strategy, a strategy that has since been ‘abandoned’ by the South African government.

The state had to deal with the tension of exercising tight control over expenditure, and at the same time ensuring the redress of past inequalities and the provision of basic public services (including education) to the most disadvantaged people. While such moves were embraced fairly quickly by national competences such as the Ministry of Finance, the Reserve Bank and the Department of State Expenditure, provincial competences were much slower to react and as a result, by the end of 1999, “limited progress had been made in these areas” (Parker 2002:3). In his analysis of the policy rationale for the reconfiguration of teacher education in South Africa, Sayed (2004) is of the view that policies since 1994 “... are a betrayal of the ideals and goals that underpinned the anti-apartheid struggle”, and suggests that “... previously radical ideas and commitments have been diluted and modified under the weight of pragmatic concerns” (Sayed 2004:250). He warns that privilege has been maintained and equity has been compromised. In theorising this change, he describes it as ‘loss of innocence’ and as a ‘necessary cost saving’ where the emphasis in teacher education is on efficiency, central control and

regulation at the expense of other social goals. The challenge, then, was to address the tensions between equity and redress and economic growth and development (ibid.), a tension that has not been adequately managed (Sayed 2004).

In 1995, the Department of Education released a White paper for Education (DoE, 1995), which outlined the broad guidelines for educational change. Numerous educational policy initiatives followed. The intention was to set up an education system that would launch South Africa into the globalised world, while simultaneously redressing the inequalities of the past. In the period 1994 -1999, there was much ambiguity about the roles and the powers of both the national education ministry and the provinces. The inability of the provinces to function effectively resulted in the national ministry intervening more strongly in the functioning of the provinces. With regard to teacher education in particular, the responsibility for teacher education policy implementation fell under the ambit of the DoE, the ELRC, SAQA, the Higher Education Quality Committee (HEQC) and SACE, and it was only during the course of 2000 that these structures became operational. However, coordination amongst these fledgling bodies presented a serious challenge. Parker warns that “(t)he development of a high quality teacher education system in South Africa depends on the ability of these various bodies to act in concert” (Parker 2002:4). Thus far, such co-ordination remains elusive in South African education.

By 2000, the then Minister of Education, declared his intention to locate teacher education in higher education. Twenty-five contact colleges of education were to be incorporated as sub-divisions of various universities and technikons. Distance teacher education colleges were to become subdivisions of the University of South Africa. Sayed (2004:252) notes that this was “arguably one of the most significant policy changes in post apartheid South Africa”, and was to significantly affect both governance and quality assurance in teacher education. He argues that this structural reconfiguration of teacher education in South Africa was in direct contrast to progressive international trends that advocated more school-based teacher education programmes. While the incorporation of teacher education colleges into universities could be viewed as the blatant neglect of

teacher education by the state, (as universities would become the main providers of both primary and secondary teacher education), it could also be construed as the “direct reversal of about 90 years of apartheid teacher education policy” (Sayed 2004:256). The demise of teacher education colleges and the relocation of teacher education within universities signalled an important curriculum issue in teacher education, namely, that South African teacher education should focus on developing ‘subject/learning area content knowledge’ (ibid.).

The dramatic change in the shape and size of the teacher education system in the 1990s can be ascribed to an interplay of both design and default mechanisms (Parker 2002). Teacher education provision was moulded around and responded to stipulations in the provisions of the interim constitution where legislation advocated private provision of higher education and the prescription that colleges of education be incorporated into higher education. The changing landscape of teacher education in South Africa has thus essentially been a centrally directed strategy.

1.3.2 Teacher education curriculum changes and the Norms and Standards for Educators (NSE)

Teacher education curricula underwent dramatic transformation in the 1990s. During the apartheid era, a diverse range of colleges, universities and technikons created equally diverse curricula. The 1995 National Education Policy Act made teacher education a direct responsibility of the education ministry. The Norms and Standards for Teacher Education was declared national policy. This legislation was to guide teacher education programmes. The Norms and Standards for Teacher Education established the core curriculum and the process for accrediting qualifications. It provided guidelines for the development of learning programmes aligned with the new outcomes-based National Qualification Framework. The South African Qualifications (SAQA) Act of 1995, the National Education Policy Act of 1996, the Higher Education Act of 1997 and The Skills Development Act of 1998 indicated the procedural functions that would apply, in terms of the locus and nature of teacher development programmes.

Parker captures the complexity and the ‘weakened’ ability to carry out the procedural function of South African education policy as follows:

[The overarching legislation] ... splits responsibilities for “governance” of parts of the higher education system. A public teacher education provider has to be “accredited” with the Higher Education Quality Committee (HEQC) of the Council on Higher Education (CHE). This may also involve accreditation with other Education and Training Quality Assurance bodies (ETQAs). The providers’ qualifications must be registered with SAQA through SGBs and NSBs. The learning programmes leading to these qualifications have to be accredited by the HEQC (or the ETQAs) and “approved” by the DoE for funding purposes and for employment purposes (2002:10).

Teacher education programmes and teacher education providers were to be regulated within this complex framework. Ambiguities prevailed, and overlaps in roles and responsibilities of different authorities impeded the implementation of an outcomes-based NQF. Different interpretations of what was meant by key concepts such as ‘curriculum’, ‘learning programme’ and ‘teaching and learning’ by different stakeholders were a further impediment.

As the structural governance features of teacher education changed, so too had the curriculum issues in teacher education. Teacher education curriculum is influenced by school curriculum changes. The introduction of C2005 and the release of the Revised National Curriculum Statement (RNCS) with an outcomes-based framework that focuses on learner-centred approaches and different expectations of teachers from those under the previous regime was a welcome shift from the Fundamental Pedagogics perspectives of rote and transmission-oriented approaches to teaching and learning. A discussion of school curriculum change follows in Section 1.3.4.

The Department of Education released the Norms and Standards for Educators in 1997. It was to be a policy instrument that would provide the basis for the generation of qualifications and programmes in teacher education. The Norms and Standards for Educators (NSE) prescribed an outcomes-based approach to teacher education and specified what a competent educator should be able to ‘demonstrate’ or perform in

schools, classrooms, management and support services of the schooling system. Its intention was to facilitate the implementation of Curriculum 2005, by training educators in terms of the knowledge, skills and values that would make learning in schools more relevant to the economic and social needs of the country.

Seven roles that represent the hallmark of a competent and professional educator were clearly defined in the NSE. Teachers were expected to be learning mediators, interpreters and designers of learning programmes, leaders, administrators and managers, scholars, researchers and lifelong learners, play a community, citizen and pastoral role, and be learning area/phase specialists.

A significant and crucial aspect of the NSE was that it accentuated the importance of the subject or content knowledge of the teacher; an aspect that Sayed (2004) asserts is crucial to effective teacher development. Weak subject or content knowledge is a serious shortcoming of many South African teachers (Taylor and Vinjevold 1999). The Curriculum 2005 Review Report indicated serious shortcomings in the preparation of teachers for the implementation of the new curriculum (Department of Education 2000). A significant finding of the report was that while teachers were able to conduct basic group work and other classroom management and administrative functions, they lacked the basic content knowledge required by learners.

The NSE attempted to offer coherence to a wide variety of efforts to improve teaching, by providing benchmarks against which the quality of teacher education programmes could be measured. Recognition and funding of teacher education programmes was based on compliance with these benchmarks. Guidelines provided by the NSE led to SAQA registered and accredited programmes. In the development of such programmes, due cognisance needed to be taken of teachers as professionals, valuing what they knew but at the same time acknowledging that what they knew was an inadequate base from which to proceed (Adler 2002). Sayed, however, argues that South African teacher education policy worked from the assumption that teachers were lacking in certain areas (Sayed 2004). It also presented a negative image of teachers as villains who were undisciplined.

The subsequent response was to create a policy characterised by ‘surveillance and regulation’ of teachers’ work. He describes teacher education policy change as ‘correcting teacher deficit’ and draws attention to the tensions between greater surveillance of the work of teachers and greater teacher autonomy (ibid.).

Changing roles of teachers were also manifested in Curriculum 2005. C2005 is characterised by a strongly learner-centred approach, with learners expected to construct knowledge, skills and values. The role of the teacher is diminished to that of facilitator of learning, a phenomenon that was likely to create a tension between teachers’ traditional roles and the new expectations. Problems associated with the marginalisation of teachers and the changing roles of educators have been well documented (e.g. see Muller 2000; Jansen and Christie 1999). The NSE and the New Revised National Curriculum Statement (RNCS) for grades R-9 in South Africa signalled the need for both short-term and long-term teacher development (DoE, 2001).

1.3.3 The challenges of teacher development in a changing South Africa

In the period 2001 to 2003, the Department of Education’s chief priority was in-service and not pre-service teacher education. This was attributed to the staggering statistic that approximately 80 000 teachers were not professionally qualified (Parker 2002). The need for continuing professional development was further emphasised by the Curriculum 2005 Review Report. The report mooted the need for a comprehensive programme for the re-training of teachers to implement Outcomes-Based Education. A ‘mechanism’ or model had to be developed that could provide education, training and development to more than 300 000 educators. The challenge was to decide on the most efficient and effective teacher development strategies. Poorly designed teacher development initiatives resulted in what Parker (2002) refers to as ‘systemic fatigue’, where “(t)eachers end up attending weekly ‘training’ workshops, which are not co-ordinated, or of particular relevance and serve more to disrupt teaching than develop it” (ibid.:25).

Although the Teacher Audit indicated that in the 1990s provincial INSET movements (provincial departments and NGOs) provided non-formal, non-qualification bearing INSET to more than 238 000 teachers, it is difficult to evaluate the effectiveness of these endeavours. Parker, however, sums up the impact of teacher development as occurring in sporadic “pockets of innovation and excellence within a general culture of mediocrity and poor quality” (Parker 2002:24).

The advent of the NSE and C2005 presented challenges for teacher education providers. The NSE places strong emphasis on research and curriculum development. Teacher education providers were expected to engage actively with the working contexts of their learners. Furthermore, “(t)he implication of C2005 and the RNCS is that teacher education providers are expected to reorientate their own as well as school-based staff” (Sayed 2004:258). Whereas in the past, teacher education curriculum was ‘centrally’ controlled at provincial levels, teacher education within the ambit of universities offers opportunities for renewal and increased autonomy on the part of providers.

A debilitating constraint on professional development in South Africa relates to the limited scale of teacher development programmes. Resource constraints dictate the scale of teacher development projects. The tension between development and democracy draws attention to choices that have to be made between development (improving the quality of teaching and learning in select schools thereby developing a core of excellence that would hopefully spread to all schools) and democracy (the spreading of the social good across all schools in a ‘watered down’ form). The key challenge is how to address both issues in a mutually supporting way. Sayed (2004) refers to this phenomenon in the construction of teacher education policy as the tension between ‘system maintenance’ and ‘radical restructuring’.

The strong demand for newly qualified teachers is likely to persist for some time to come. This problem is compounded by the inability of teacher education to attract new recruits, especially young people (Welch 2002). Welch also draws attention to the varying quality of much of teacher education programmes across various institutions, an issue that needs urgent attention (Welch 2002:18).

Parker asserts that while it is too soon to fully understand or to evaluate teacher education policy post 1994,

...the DoE has (however) acted decisively in regard to teacher education policy in the period from 1995 to 2000 in those areas for which it has responsibility and that these efforts have been undermined by a broader systemic dysfunctionality linked to the complexity of the governance arrangements within the higher education system and the epistemology that informs these arrangements (Parker 2002:1)

This complexity is also identified by Sayed who argues that the “restructuring of teacher education reveals a new state coping with multiple and contradictory demands” (Sayed 2004:254). It has to create the conditions for a ‘more just and humane society’ and at the same time create the conditions for economic growth and development. Finding the right balance has proved to be a major challenge.

1.3.4 A brief note on Curriculum 2005 (C2005)

As mentioned above, the advent of a new democracy in South Africa in 1994 presented many challenges to the new democratic government. A serious and urgent challenge was to set out a new philosophy of education for South Africa. This philosophy necessarily had to be based on the principles of equity and democracy where the “... goal of education and training policy (should be) to enable a democratic, free, just and peaceful society...” so as to achieve the political vision of the new democratic government (Department of Education 1995:22)

One of the first curriculum reform initiatives of the new state was to streamline the various differences in the curriculum that existed in the different education departments. This was followed by the removal of archaic content, racially offensive, and other discriminatory elements from the curriculum (Jansen 1997). However, the major curriculum innovation to affect schools was the introduction of C2005. Harley and Wedekind (2004:195) note that school curriculum change “in the form of Curriculum 2005 (C2005) was of a scale arguably unparalleled in the history of curriculum change” in South Africa. The first version of the post apartheid National Curriculum Statement was released in March 1997. It provided a framework for Early Childhood Development (ECD), General Education and Training (GET), Further Education and Training (FET), and Adult Basic Education and Training (ABET). The plan was to progressively phase in the new curriculum starting from Grade 1 in 1998 and Grade 7 in 1999 with the hope that it would be fully implemented across all grades by the year 2005. The GET band was the first band for which detailed curriculum documents were presented in 1997.

Harley and Wedekind summarise the three design features of C2005 as follows:

Firstly, it was *outcomes-based*, and this feature was positioned so centrally that outcomes-based education (OBE) became synonymous with C2005. An *integrated knowledge* system was the second design feature. School ‘subjects’ were jettisoned, and eight ‘learning areas’ introduced for Grades 1 to 9. The third dimension of curriculum reform was the promotion of *learner-centred pedagogy* (Harley and Wedekind 2004:197).

These features were manifested in the Revised National Curriculum Statement (RNCS), which presented the curriculum framework for the General Education and Training (GET) band. The RNCS defines outcomes-based education as “a process and achievement-oriented, activity based and learner-centred education process...” (DoE 2002:58). Outcomes are the results at the end of the learning process in outcomes-based education and are expected to shape the learning process. OBE as a design feature of C2005 had its roots in the training sector. Jansen notes that outcomes-based education was conspicuously absent from early discussions on curriculum reform and therefore

came as a 'surprise' to many academics and curriculum policy experts in South Africa (Jansen 1999).

The second feature, namely, an integrated knowledge system, advocates an integrated approach to teaching 'subjects' that existed in the previous curriculum. Previously insular subjects were re-organised into eight broad, integrated Learning Areas, namely: Languages, Mathematics, Natural Sciences, Social Sciences, Arts and Culture, Life Orientation, Economic and Management Sciences and Technology. In an integrated curriculum, boundaries between disciplines are broken down. Teachers are expected to create conditions for learners to make connections between knowledge domains.

Each Learning Area Statement identifies the main Learning Outcomes to be achieved by the end of Grade 9. It also specifies the Assessment Standards that will enable the learning outcomes to be achieved. "The achievement of an optimal relationship between integration across Learning Areas... and conceptual progression from grade to grade are central to this curriculum" (DoE 2002:2). While the vision of integration has merit, Taylor warns that key ideas and concepts within a discipline could be neglected (Taylor 1999). Furthermore, effective integration requires competence in sequencing, pacing and grading of tasks, an area that proves to be challenging for teachers even within conventional subject boundaries (Brodie, Lelliot and Davies 2002; Taylor and Vinjevold 1999).

Thirdly, learner-centred practices must necessarily entail non-threatening relations of trust and respect between teachers and learners engaged in a negotiated curriculum that is responsive to the needs of learners. Pedagogical approaches that involve establishing links between learners' current meanings and new knowledge are required. "(The) *substance* of learner-centred teaching involves the selection and sequencing of tasks in relation to learners' current knowledge and providing for required conceptual development in the subject area... (and,) ... (i)n order to achieve the substance of learner-centred teaching, certain *forms* of classroom organisation and activity are ... used". (Brodie, Lelliot and Davies 2002:100). While learner-centred teaching is viewed as an

entrenched design feature of C2005, classroom-based research on teachers' practice indicates that teaching remains largely teacher-centred. This is despite teachers' enthusiastic acceptance of the new curriculum and their perceptions that they were working within its principles (DoE 2000; Jansen 1999; Taylor and Vinjevold 1999). Teachers were able to articulate the essential features of C2005, namely, that of teacher as facilitator, the use of group work and other learner-centred activities, but their actual practice indicated that teachers "had embraced the form rather than the spirit and content of the ideas" (DoE 2000:78). However, Brodie, Lelliot and Davies argue that it may be inappropriate to make such generalisations about teachers' assumption of learner-centred practices. Teachers' contexts, biographies and knowledge influence the extent to which they take up new ideas: "... teacher characteristics, such as prior qualifications, reflective competence, grade level, subject knowledge and confidence, access to resources and support structures in their schools, are all implicated in their take-up of learner-centred practices" (Brodie, Lelliot and Davies 2002:114). Teachers are likely to vary in the extent to which they embrace the form and substance of learner-centred practices.

It must be noted that although learner-centredness is coupled with OBE in C2005, seeds of this principle were fertilised by 'alternative curricula' in the form of the Freirean-influenced People's Education movement of the 1980s. Other distinctive features of People's Education that began to germinate in the new curriculum were equal access for all, critical thinking, bridging the gap between theoretical and practical knowledge, teachers as curriculum developers, group work, community participation, and continuous assessment.

C2005 and OBE have been subjected to intense (and often hostile) critique from various stakeholders (including curriculum experts, sociologists and philosophers of education, teachers, and trade unions) so much so, that the then Minister of Education instituted a Review Committee with the brief to review the curriculum. The eventual result was the release of Revised National Curriculum Statement in 2002.

1.4 PREVIEW OF CHAPTERS TO FOLLOW

Chapter Two begins with an analysis of the literature on teacher learning communities. A brief outline of the relevant research on teachers carried out over the past four decades is then presented, and an exposition of the key concepts associated with the study is provided. A disciplinary focus is offered by providing an exposition of the work of key writers in the field of commerce education (with special reference to Economics Education) in an attempt to locate Economics and Management Sciences in the broader field of Economics education. The chapter concludes with a reflection on the implications of the literature review for the present research study.

In Chapter Three, the theoretical orientation of this research study is outlined so as to create the context for the theoretical framework. The chapter establishes the coherence between the methodological orientation and the theoretical framework. A discussion is provided of the origin and development of Wenger's social practice theory of learning by examining his earlier work with Lave, namely, *Situated Learning: legitimate peripheral participation* (Lave and Wenger 1991). An exposition of the crux of the theoretical framework used in this research study, namely, *Communities of Practice: Learning, Meaning and Identity* (Wenger 1998), is also provided. The chapter concludes with an outline of Wenger's most recent work with McDermott and Snyder, namely, *Cultivating Communities of Practice: A Guide to Managing Knowledge* (Wenger, McDermott and Snyder 2002) in which the authors extend on Wenger's 1998 work.

The focus of Chapter Four is on methodological issues relating to conducting research in education. Attention is given to issues related to conducting research on Economic and Management Sciences teacher learning during the TEMS project. This chapter provides a comprehensive discussion of the methodological orientation and research design; the coherence of the methodology and theoretical framework; procedures for attaining access and acceptance; and sampling and data collection instruments.

In Chapter Five, I set up a narrative vignette of John, one of the research participants. Wenger's four-component social learning theory is used to analyse John's data set (Wenger 1998). A detailed description of the context in which John worked is provided as a prelude to the analysis that follows. The case of one teacher (John) was selected for an in-depth analysis of the nature of teacher learning in the TEMS community in order to provide the basis for theorizing the frame for the data analysis in Chapters Six and Seven.

Chapter Six is dedicated to establishing the nature of teacher learning in terms of Wenger's first three components of learning, namely, *meaning*, *practice*, and *identity*. It illustrates the changing understandings and meanings (changing ability) of the TEMS research participants with regard to EMS and EMS teaching. A discussion of shifts in teachers' practice is provided. This Chapter also focuses on the distinct differences and similarities in teacher learning across two participants and how their learning was influenced by their biographies, career trajectories and local school contexts. The chapter concludes by examining how teachers' changing participation and teacher learning shaped and created personal histories of becoming in the TEMS learning community.

Chapter Seven sets out to provide an analysis of the TEMS community in terms of Wenger's fourth component of learning, namely, *community*. Community membership is discussed using the concepts 'core' and 'periphery'. The chapter analyses the development of the community in terms of Wenger et al's five stages of community development and proceeds to discuss issues of 'community maintenance', 'communal resources' and 'brokering'. It concludes with an analysis of the TEMS community in terms of the extent to which the community subscribed to the notions of a 'shared repertoire', 'mutual engagement' and 'joint enterprise'.

Finally, Chapter Eight provides a synthesis of the analysis and arguments developed in this report. It outlines a set of recommendations that have been derived from this study, documents the limitations of the study, and highlights areas of research that need further investigation.

1.5 CONCLUSION

This chapter has provided an outline of the purpose, scope and rationale of this research study. The broader context of the study was expounded by providing a partial account of the South African teacher development context. The chapter concluded with an overview of the research study by providing a preview of the chapters to follow.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter begins with an analysis of the literature on teacher learning communities. A brief outline of the relevant research on teachers carried out over the past four decades is then presented, and an exposition of the key concepts associated with the study is provided. This is followed by a disciplinary focus providing an exposition of the work of key writers in the field of commerce education (with special reference to Economics education). This is intended to locate Economics and Management Sciences in the broader field of Economics education. The chapter concludes with a reflection on the implications of the literature review for this research study. The structure of this chapter is therefore as follows:

- Teacher Learning Communities: An Overview of the Literature
- Broad Trends in Classroom Research since the 1960s
- Associated Concepts under study with particular reference to ‘teacher strategies’
- Locating Economic and Management Sciences in the broader field of Economics Education
- Implications of the literature review for this study
- Conclusion

2.2 TEACHER LEARNING COMMUNITIES: AN OVERVIEW OF THE LITERATURE

There have been significant developments in the continuing professional development of teachers in recent years. Continuing professional development has been influenced by the emergence of the worldwide web and of e-learning which have created previously unheard of methods, approaches and models with overlapping meanings and complex definitions. While theory and research extend our understandings of teacher learning and

continuing professional development, they also sometimes complicate our understanding of the process. Because writers operate from differing perspectives, research findings are seldom mutually informing and are often contradictory (Bolam and McMahon 2004). There is no universal definition of a professional learning community (Hord 1997). Although there exists little evidence of the impact of continuing professional development on policy and practice, teacher development programmes continue to be introduced throughout the world (Bolam and McMahon 2004).

The critical question in this research study seeks to examine the nature of teachers' learning in relation to their participation in a teacher learning community. Teacher development through participation in teacher learning communities is a relatively new phenomenon in South African teacher education. Graven (2002) notes that literature analysing teacher learning in learning communities is relatively new and needs further development. However, international research into teacher learning communities, particularly in the United States, has highlighted the potential that teacher learning communities have for teacher development. Wesley and Buysse (2001:120) remind us that we have much to learn about how we "... might transform traditional views of teaching and learning (in which practitioners are viewed as recipients of knowledge) into learning communities (in which practitioners are viewed as co-producers of knowledge)". They suggest that designers of professional development programmes should take the lead in developing communities of practice 'from the ground' and should ideally incorporate diverse expertise to bring together research, policy, and practices in a way that is most meaningful to all participants.

Although the notion of teachers collaborating to improve practice is not new, the study of collaborative processes engaged in by teachers and other professionals has recently attracted the interest of researchers. However, much more research is needed to systematically determine the potential of communities of practice for learning (Wideman and Owston 2003).

As indicated in the previous chapter, the Graven study (Graven 2002) has a distinct significance for the current study as it represents the only local investigation into the workings of a teacher learning community, using Wenger's theoretical framework as a framework for analysis. Graven set out to investigate mathematics teacher learning in relation to teacher participation in an INSET programme. The study highlighted the tensions inherent in curriculum design, in particular the tensions in the design of the new Mathematics curriculum, the impact of these tensions on teachers learning about the new Mathematics curriculum and the challenges that such changes presented. An examination of the new pedagogic and mathematical roles inherent in the new curriculum and the adoption of these roles by teachers in relation to their changing practices and the development of new identities were also explored. The study revealed that teacher learning in terms of Wenger's four components of learning, namely, meaning, practice, identity and community, had occurred for all teachers. Graven proceeded to theorize the notion of 'confidence' as a further, fifth component of learning that appeared to be grounded in the data that emerged. Confidence was conceptualised as 'learning as mastery' (ibid.). The study showed that teachers' participation in the community of practice entailed a complex intersection of all five components of learning. It raised several key issues concerning teacher development, including the importance of acknowledging the transformatory context of curriculum change, long-term work with teachers, locating INSET activities within a community of practice, developing teachers' mathematical identities, a focus on lifelong learning in INSET, the benefits of racially integrated learning communities, and the importance of providing access to resources.

The focus of the next section is an analysis of the concepts 'teacher learning' and 'learning community', and a reflection on the literature on teacher learning communities as potential vehicles for facilitating teacher development.

2.2.1 A situative conception of teacher learning

Learning in general, and teacher learning in particular, can mean different things depending on one's conceptual perspective (Spillane 2000). It is therefore necessary, for

the purpose of this research study, to probe and clarify the nature of *teacher* learning. While research scholars and policy makers (in the USA) have cast their work primarily in terms of pupils, little attention has been paid to teachers and how they learn new ways of teaching (Putman and Borko 2000). Pupils cannot improve their level of achievement until teachers become more effective in their own practice. In a school learning community, teacher learning comes *first* (Carmichael 1982). Teachers who spend time collectively studying teaching practices are more effective overall at developing higher-order thinking skills and meeting the needs of diverse learners (Darling-Hammond 1998). In recent years there has been a proliferation of research into schools as learning communities in which learning by teachers is connected to school improvement (see DuFour and Eaker 1998; Reyes, Scribner and Paredes –Scribner 1999; Thiessen and Anderson 1999; Smylie and Hart 1999).

New ideas about the nature of cognition and learning abound in education and research communities. Concepts like “situated cognition”, “distributed cognition” and “communities of practice” have taken centre stage in educational research (Putman and Borko 2000). This is particularly evident in the work of Greeno (1997) and Anderson, Reder and Simon (1996, 1997).

Drawing on the work of Hutchins, Lave, Pea, Resnick and Vygotsky, Spillane (2000:3) provides the following description of the situative perspective on learning:

The *situative* perspective regards individuals as inseparable from their communities and environments. This perspective views knowledge as distributed in the social, material, and cultural artefacts of the environment. Knowing is the ability of individuals to participate in the practices of the community. Learning involves developing practices and abilities valued in specific communities and situations. The motivation to engage in learning is seen in terms of developing and sustaining learners’ identities in the communities in which they participate. Learning opportunities need to be organised so that they encourage participation in practices of inquiry and learning, support the learner’s identity as skilled inquirer, and enable the learner to develop the disciplinary practices of discourse and argumentation. Learning opportunities need to be grounded in problems that are meaningful to the student.

This view is supported by Putman and Borko (2000:5) who posit that learning is situated in particular physical and social contexts. While early cognitive theories treated knowing as the manipulation of symbols inside the mind of the individual, and learning as the acquisition of useful knowledge and skills, situative theorists challenge the assumption of a cognitive core 'independent of context or intention'. They suggest, instead, that "the physical and social contexts in which an activity takes place are an integral part of the activity, and that the activity is an integral part of the learning that takes place within it" (ibid.:5). How learning takes place, and the situation in which learning takes place, becomes an essential part of what is learned. Situative perspectives focus on interactive systems that include individuals as participants, interacting with each other and materials as opposed to traditional cognitive perspectives that focused on the individual as the basic unit of analysis (Greeno 1997; Wenger 1998).

The situative perspective (Putman and Borko 2000) posits that all knowledge and learning is situated. This perspective focuses researchers' attention on how various settings for teachers' learning give rise to different kinds of knowing. The implied question for teacher education is in what contexts such learning should be situated. It is important to recognise that the situative perspective entails a fundamental redefinition of learning and knowing (Lave and Wenger 1991; Wenger 1998; Putman and Borko 2000; Wenger, McDermott and Snyder 2002). This perspective attempts to recast the relationship between what people know and the settings in which they know. The contexts in which people learn, and in which they are assessed, are inextricable parts of their knowledge. This implies that learning and knowing are situated. For teachers, professional knowledge is developed in context, stored, and accessed for use in similar situations.

Learning is a social process in which "partners know how to push and pull, to thrust and to back off" (Lindfors 1999:11). Learners in a community scaffold one another's learning through the powerful exchange of ideas (Rogoff 1990; Vygotsky 1978). Learning communities do not require a 'designated teacher'. "... (W)hen people

collaborate in an activity, each can assist the others and each can learn from the contribution of others” (Wells 1999:333).

Long (2004) identifies three barriers to teacher learning as teachers strive to grow professionally. She cites the lack of consistent high-quality support for new teachers, limited long-term, research-based professional development for experienced teachers, and the “... ‘testing frenzy’ that too often pushes teachers to abandon beliefs in the drive to teach for test success” as significant barriers to teacher learning (ibid.:145). “From the teacher’s perspective, one of the peculiarities of the workplace is that learning aimed at deepening knowledge of the subject matters of instruction must be done outside of the school, during so-called free time...” (Grossman, Wineburg and Woolworth 2001:947). In South Africa, a similar phenomenon occurs where principals are content to allow teachers to attend workshops ‘after school hours’. This has given rise to a situation where communities for teacher learning are formed ‘outside’ of the school. Lortie (1975) maintains that collaborative work among teachers is hindered by the job related norms of teacher privacy that are maintained to a large extent by the organisation of the school day. Darling-Hammond and McLaughlin (1995) however, note, that a powerful form of teacher learning comes from membership of professional communities that extend beyond the classrooms and school campuses.

Engaging an analytical approach for situating teachers’ practices within schools and districts by working with a group of teachers in an urban school district, Cobb, McClain, de Silva Lamberg and Dean (2003) assert that such an approach is useful in that it allows for valuable feedback that could guide and inform ongoing collaborations with teachers and administrators. Their approach focuses on the functions of teaching and delineates the communities of practice whose members contribute to the accomplishment of these functions. They argue that teaching is an activity that is distributed across a configuration of communities of practice within a school or district.

Learning is social in nature (Putman and Borko 2000:5). Educators and psychologists are recognising that the role of 'others' in the learning process goes beyond providing stimulation and encouragement for individual construction of knowledge. Interaction with fellow participants in the learning environment has a major influence on what is learned and how learning takes place. What participants consider 'knowledge' and how they think and express ideas are outcomes of interactions of groups of people over time (Resnick 1991). Individuals participate in 'discourse communities' that provide the cognitive tools (theories, ideas and concepts) that individuals share and use as their own in their efforts to make sense of experiences.

Research on teacher learning reveals a strong motivation to situate teachers' learning within teachers' classrooms and within school sites, through classroom observations and staff development workshops. This approach has merit in that teachers' learning is intertwined with their ongoing practice. However, the nature and scope of this approach to teacher learning is constrained by time, human and economic resources, and is often not practical (Putman and Borko 2000). While the classroom may be a powerful environment for shaping how teachers learn, it can also place constraints on how teachers think and act, making them resistant to reflection or change. "Engaging in learning experiences away from this setting may be necessary to help teachers 'break set' - to experience things in new ways" (ibid.:7). Learning communities have the ability to transcend organisational and geographic boundaries. Members may represent different backgrounds and organisations but will have a common set of core issues that bind the members together in a single community (Wesley and Buysse 2001).

Of particular significance to this study is the work of Etienne Wenger (1998). At this point it is appropriate to briefly review Wenger's conception of learning. In Chapter Four however, a comprehensive discussion of Wenger's work based on his book *Communities of Practice: Learning, Meaning and Identity* is provided.

The focus of Wenger's theory of learning is on 'learning as participation', that is, being active participants in the *practices* of social communities and constructing *identities* in relation to these communities. He posits the following elements of a social theory of learning:

1. Meaning: a way of talking about our (changing) ability – individually and collectively – to experience our life and the world as meaningful.
2. Practice: a way of talking about the shared historical and social resources, frameworks, and perspectives that can sustain mutual engagement in action.
3. Community: a way of talking about social configurations in which our enterprises are defined as worth pursuing and our participation is recognizable as competence.
4. Identity: a way of talking about how learning changes whom we are and creates personal histories of becoming in the context of our communities (Wenger 1998:5).

These elements are “deeply interconnected and mutually defining” (ibid.:5).

The purposes of a community of practice are for expanding and exchanging knowledge and the development of individual capabilities. People participate through dialogue and sharing of knowledge about their common practices. It is through this participation that members develop deeper understandings (Wenger, McDermott and Snyder 2002).

The situative conception of teacher learning is particularly important to the present study, as the theoretical frame adopted by the study is located in the situative paradigm. Writers and theorists quoted above make convincing arguments for a situative perspective on teacher development. The situative perspective would seem to have much potential for teacher learning, especially in the South African teacher education scenario characterised by extremely diverse communities and environments in which teacher development is expected to take place.

Constant reflection on and understanding of the situative conception on teacher learning has influenced and shaped key decisions concerning the nature of the present study. The literature on teacher learning is largely gleaned from studies conducted in the United States. While it is often difficult to extrapolate from research findings conducted in developed countries compared to developing countries like South Africa, the literature does provide important insights into the potential usefulness of a situative perspective on teacher learning.

2.2.2 Do learning communities/communities of practice have potential to facilitate teacher learning? What does the literature say?

Among the many reasons why teachers often find formal professional development disappointing include the fact that teachers are positioned as clients needing ‘fixing’ rather than as owners and managers of programmes that supposedly aim to support their learning (Clark 2001; Sayed 2004). Clark notes that many teacher professional development initiatives are often superficial, short-term and insufficiently sensitive to complex local conditions. He accordingly maintains that teachers must become agents of their own and each other’s learning, and that teachers’ perspectives on their work should be carefully considered (Clark 2001). “A conversation group, in the best of circumstances, becomes a social context for doing the work of reflective practice” (ibid.:180).

One notes that while the idea of teachers becoming agents of their own and their colleagues’ learning has merit, this phenomenon is more likely to occur in stable, developed countries with stable and established education systems in place. South African education however, is currently undergoing radical curriculum change. Teachers often appear to be too preoccupied with day-to-day survival to consider taking responsibility for peer development.

“In education, the emphasis has shifted from *describing* various communities of practice to *creating* various communities for the purpose of improving practice, particularly as it relates to professional development” (Wesley and Buysse 2001:118). Communities of

practice originated in response to several barriers to professional development that exist in the culture of schooling, such as the isolated nature of teaching and the lack of agreement as to what constitutes acceptable practices. The concept of 'community of practice' was first used by researchers to describe the way in which meaning was negotiated and reflected on in the practices of specific occupations such as architects, physicians and tailors (ibid.).

The concepts 'community of practice' and 'learning community' are often used interchangeably. Communities of practice emerge from a common desire among its members to achieve change. They provide opportunities for collaborative reflection and inquiry through dialogue and thus develop common tools, language, images, roles, assumptions and understandings (ibid.).

In their study of the role that teacher communities of practice play in the development of the capacity of teachers to implement innovative pedagogical practices that make use of information and communications technology in three Canadian schools, Wideman and Owston (2003) conclude that communities of practice are crucial to sustaining and expanding the momentum for change. Once a critical mass of participants (teachers) have acquired expertise and experience, then only will the real value of learning in a community of practice achieve fruition (ibid.). Although this presents as an 'obvious' circular argument, that suggests that with expertise in place, most systems are likely to work, the above study does in fact highlight the important relationship between expertise, community sustenance and momentum. It has particular significance for the present study, where teachers in the community of practice who had acquired sufficient expertise, were able to sustain and expand the momentum of EMS teacher development through expanded learning communities.

Working with science teachers, Avery and Carlsen (2001) studied the effects of teachers' membership of communities of practice on their management of their classroom communities. They found that teachers who had strong subject matter knowledge and experience with science were able to teach science in a 'sociologically' useful way.

Teachers drew on their membership in communities of practice for support, ideas, and curricular innovations. The above study is useful as it raises the crucial issue of the 'transfer' of knowledge and skills acquired in teacher learning communities to teachers' classrooms, an issue that is explored in the present study.

An important argument for teacher community is that it provides a site or location for teacher learning. There exists a 'natural' interconnectedness of teacher learning and professional communities (McLaughlin and Talbert 2001). However, Grossman et al (2001:942) warn that the word 'community' has lost its meaning, and has become an 'obligatory appendage' to educational innovations. Burgeoning 'virtual communities' add to the confusion. Wenger (1998) also cautions about ascribing the concept 'community of practice' to any arbitrary grouping of people. Grossman et al observe that learning communities are not easily formed and that in fact it takes time for individuals to develop a common history that will allow them to develop a 'community of memory' where "public discussion revolves around members retelling the constitutive narrative of the group" (Grossman et al 2001:945).

Concern over the loss of traditional social community and a sense of social responsibility and commitment amongst people in favour of 'unrestrained individualism' is highlighted by Grossman et al who go on to warn that "what we risk losing ... are those communal spaces where meaningful interaction broadens people's sense of self beyond the 'me' and 'I' into 'we' and 'us'" (Grossman 2001:945).

Teacher communities differ from law and medical communities. Law and medical professions display their own unique characteristics and vary in the extent to which they are communities as compared to teacher communities. Membership of such communities entails the sharing of an identity, common values, role definitions and a common language. Grossman et al (2001) draw attention to the unique features and challenges of teaching compared to the standards and criteria applicable to the professions of medicine and law. Teachers generally differ in their understandings of the goals of teaching, the structure of the curriculum, assessment, and basically anything that pertains to teaching.

Differing values amongst teachers are linked to several factors, including the grade level they teach, the disciplines they teach, their teaching qualifications, and the type of pupils they serve. "Compared to medicine or law, education has been unable to forge a shared language of norms and values; and practically every significant question in education remains contentious" (Grossman et al 2001:947). This certainly has significant implications for teacher development and highlights the challenges of establishing professional community in teaching. Such challenges are exacerbated in education because here value systems, ideologies and teacher beliefs are more varied than in the case of law and the medical profession where consensus about 'end' and 'means' is much more easily achieved. The phenomenon of the contentiousness of education's norms, values and ideologies is pronounced in South African education where teachers' manifest behaviour has been shaped by a tapestry of influences and ideologies that date back to apartheid education.

Extensive research regarding the relationship between teacher learning and teacher collaboration has been carried out by researchers who include Rosenholtz (1989), Johnson (1990), and Hargreaves (1994). In his review of theories of community, Westheimer (1998) concluded that empirical research was needed to build a stronger conceptualisation of communities. While the research suggests that collaborative cultures create beneficial conditions for teacher learning, the nature of these professional groupings and their connection to teacher learning is still unclear (Galluci 2003). There are, however, many theoretical formulations on how 'community' is supposed to function in educational settings. Nevertheless, research has not yet been able to explore the aspects that constitute 'teacher professional community' to discover how these aspects work to support or hinder teaching (Grossman et al 2001).

The above arguments about the lack of understanding of the relationship between collaborative cultures and teacher learning and the need for more empirical research into the nature of teacher learning communities have a good deal of validity. Empirical research on teacher learning communities will allow researchers to move beyond anecdotal evidence when theorizing teacher learning communities. *The present study hopes to contribute, through empirical research, towards the growing body of knowledge on teacher learning communities.*

In her analysis of case study data from a school reform initiative in a middle school in a major city in the south-western United States, Phillips (2003) concludes that by creating 'powerful learning' that is, high quality learning for teachers, student achievement across all socio-economic, ethnic and academic groups improved dramatically. Teachers at the school were able to create a set of innovative curriculum programmes. These programmes were focussed on previously low achieving students. Phillips notes that "...learning communities create spaces for teachers to form professional relationships, to share information and to provide collegial support" (ibid.:244). Such collegial communities of practice represent a marked shift from traditional approaches to staff development. Research by Lieberman (1988), Westheimer (1998) and McLaughlin and Talbert (2001) also suggest that such learning communities have enormous potential for teacher learning. The above research has particular significance for teacher development in South Africa. Issues such as socio-economic, ethnic and academic diversity are deeply entrenched phenomena in South African education. Of direct significance to the present study are the issues of 'powerful learning' and the shaping of an innovative teacher development programme within a teacher learning community.

In evaluating the usefulness of a socio-cultural approach for analysing teachers' responses to the professional learning of standards-based reform policies in the United States through a case study of six elementary teachers, Gallucci (2003) asserts that communities of practice were sites for teacher learning and were mediators of teachers' responses to institutional reform. Characteristics of such communities of practice influenced the degree to which teachers worked out negotiated and thoughtful responses

to policy demands. These findings confirm the value of teacher learning communities as sites for teacher learning. The present study is a response to the challenges of South African institutional reform in the form of new education policy, as it seeks to explore how teachers use a teacher learning community as a vehicle to come to terms with new education policy.

A study of high school teachers by McLaughlin and Talbert (2001) indicates that local contexts (schools, departments and communities) significantly influence teacher performance and professional satisfaction. Differences in qualities (teacher qualifications and experience) and characteristics among high school departments, that is, professional communities that were either innovative or traditional, accounted for differences in the ways that teachers conceived of teaching diverse student populations. The researchers identified a layer of context between the classroom and the school organization as “teacher community and culture” (ibid.:144). The quality of teaching is not only influenced by the attributes, energy and expertise of an individual teacher, but is shaped in professional communities, through norms for teaching, curriculum structures and collegial support (ibid.:140). The argument is that instead of looking to institute reform at the state or district level (top-down), reforms aimed at teacher learning and adaptation are likely to be more effective at the local, school level. The relevance and value of the above study for South Africa is indeed noteworthy in that it draws attention to what the researchers refer to as a layer of context between classroom and school organization which they refer to as teacher community and culture. South African schools are characterised by extremes in terms of the existence of professional teacher communities within schools. While some schools have thriving teacher learning communities, in many schools they are non-existent. The present study drew on teachers from schools where such extremities existed and explored the extent to which they influenced teacher learning.

In a three-year study of experienced teachers involved in a long-term professional development experience, Long (2004) identified several barriers that teachers confront in their attempts at sustaining development. She suggests that teacher educators take an honest look at how they might work with teachers and administrators to effect significant

change. She highlights the importance of ongoing professional development in the lives of teachers and warns of the “ease with which teachers can lose a sense of professional self without communities of mutual support” (ibid.:141). In a study of how novice teachers described and assessed their experience in a learning community, Myer (2002) concluded that such learning communities have much benefit for novice teachers as they provide access to and participation in the learning community. They allow teachers to develop a form of collegiality that enables members to provide each other with “critique and support they identified as being missing in other venues for professional development” (ibid.:39).

The various studies cited above suggest that teacher learning communities have much potential as vehicles for teacher learning. The studies indicate that various models for teacher development are employed in various contexts and that context is crucial in determining the nature of the learning community and the extent of teacher learning that is likely to occur. As stated earlier, the South African teacher development landscape is a diverse one, and although studies of teacher learning communities in developed countries may not be easily extrapolated to a South African context, they do however offer useful insights and possibilities for South African teacher development. These studies acknowledge that teacher learning communities as vehicles for teacher development is an under-researched area, an issue that is also pertinent to South African teacher development research.

2.2.3 Formation and functioning of learning communities

The teaching profession has been constructed around norms of privacy. It is a challenging and new experience for teachers to engage with the activity of taking responsibility for the learning of other adult participants in a community (Grossman et al 2001). However, in the teaching fraternity, organized professional development and inquiry groups that comprise clusters of teachers *do* meet voluntarily to grapple with various challenges of teaching, and to offer intellectual and emotional support for each other (Clark 2001). In South Africa, such gatherings of teachers are likely to occur within schools as whole

school staff development workshops or gatherings where teachers within a discipline meet to discuss issues. Other group formations may take place within disciplines or grades but across schools within a particular geographical area.

In a study of voluntary groupings of teachers, Clark recognized that professional conversation is the key to enhancing teachers' learning and that "authentic conversation" occurs when topics arise out of teachers' concerns about their work (Clark 2001:177). "Authentic conversation is about making sense of and articulating our own experiences, implicit theories, hopes, and fears, in the intellectual and emotional company of others whom we trust" (ibid.). Clark concludes that developing trust and generating authentic conversations only happen over an extended period of time (ibid.).

Learning communities have to go through an initial phase which Grossman et al (2001:955) call a 'pseudocommunity'. They explain the concept 'pseudocommunity' as a situation in which participants 'play community', that is, they act as if they are already a community that shares values and beliefs. Participants are congenial and friendly and sensitive not to intrude on issues of personal space. There is a definite attempt to suppress conflict, by not overtly challenging each other, thereby creating *illusions of consensus*. Because there is no rigour in discussions, participants "speak at high levels of generality that allows each to impute his or her own meaning to the group's abstractions" (Grossman et al 2001:955). Participants perform identities that generally reflect positively on them. Other participants may try to achieve the aim of presenting themselves as victims who, through the expression of incompetence, seek the group's sympathy. Interactions in a pseudocommunity operate smoothly as long as each participant gets to play the role she wants without being challenged. The smooth functioning of a pseudocommunity is challenged when participants meet more often and for longer periods for time. When this happens, individual participants' authenticity begins to be questioned (ibid.).

Differences in the cultures of learning communities influence the ways that teachers respond to their participation in such communities (Galluci 2003). In strong communities of practice, teachers worked closely with each other and had a strong influence on each other's practice, whereas in weak communities of practice, teachers had much less influence on each other's practice (ibid.).

Through in-depth case studies in the corporate world, Wenger, McDermott and Snyder identified categories and roles that participants in a community of practice may adopt. Participants fit into several categories and assume various roles within the communities of practice, such as, a coordinator, who organises events and links community members; a core group of active participants who assume leadership roles; an active group of frequent but not regular participants; and peripheral participants, members who occasionally take part, and 'lurkers' who learn from observation (Wenger, McDermott and Snyder 2002).

The development of communities of practice is an evolutionary process that occurs in phases (Wenger, McDermott and Snyder 2002). The Potential phase is the initial phase in the development of a community of practice and typically begins when people face similar circumstances, dilemmas or challenges without the benefit of shared practice, but a situation in which they perceive the benefit of working with each other. In the second phase, namely, the Coalescing phase, members come to recognize the potential of working together and begin to explore how to accomplish this. In the Maturing phase (third phase), the community of practice becomes firmly entrenched as members engage in joint activities, create artefacts, and adapt to changing circumstances. The Stewardship phase (fourth phase) is characterised by members no longer as intensely engaged, but the community is still strong and members stay in touch, hold get-togethers and call each other for advice. In the final stage, namely, the Transformation phase, activity wanes and participants remember it as a significant part of their identities, often attempting to preserve artefacts, collecting memorabilia and telling stories (ibid.).

The formation and functioning and stages of development of a learning community will be peculiar to the community being formed. The above literature on the formation and functioning of learning communities offers valuable insights that have important implications for the present study. Such useful insights informed and shaped the study as the learning community under study progressed through the different stages.

2.2.4 Distributed cognition and the essential tension in learning communities

An important element in the situative perspective on learning is the notion of ‘distributed cognition’. Putman and Borko (2000:8) assert that:

The notion of distributed cognition suggests that when diverse groups of teachers with different types of knowledge and expertise come together in discourse communities, community members can draw upon and incorporate each other’s expertise to create rich conversations and new insights into teaching and learning. The existing cultures and discourse communities in many schools, however, do not value or support critical and reflective examination of teaching practice.

This notion is supported by research conducted by Grossman and colleagues (Grossman et al 2001). They state that forming a professional community requires teachers to engage in both intellectual and social work, that is, developing new ways of thinking and reasoning collectively, as well as new forms of interacting personally. It is important to be cognisant of the fact that in the development of teacher community some people know things that others do not know and that the collective knowledge exceeds that of the individual. Learning from fellow participants requires the ability to listen carefully to fellow participants, especially as these participants struggle to formulate thoughts in response to challenging intellectual content. Listening to the ill-formed thoughts and ideas of fellow participants may be a new activity that participants have to learn to engage with.

Communities of practice alter the “linear relationships through which knowledge ‘trickles down’ from those who discover professional knowledge to those who provide and receive services shaped by it because the model invites and builds upon knowledge from each” (Wesley and Buysse 2001:121). Cognition is distributed across the individual and other

persons and is not considered solely as the property of individuals (Putman and Borko 2000). Lave (1988) and Lave and Wenger (1991) suggest that cognition is distributed or 'stretched over' the individual, other participants and various artefacts and tools. The distribution of cognitive tasks across participants and tools makes it possible for the community or group to accomplish tasks beyond the capabilities of any individual participant. Participants "experience transformation in unique yet socially supportive ways", as they extend each other's thinking beyond what they might do as individuals (Long 2004:144). In this way, teachers are better able to engage in learning that may influence their practice. Putman and Borko (2000) concur that for teachers to be successful in learning new knowledge and pedagogic skills, they need opportunities to participate "in a professional community that discusses new teacher materials and strategies and that supports risk taking ... entailed in transforming practice" (Putman and Borko 2000:8).

In learning communities, teachers' professional knowledge is public and is represented in a form that enables it to be accumulated and shared with other members of the community. This knowledge is constantly verified and improved and is communicated among colleagues through a process of collaboration (Hiebert, Stigler and Gallimore 2002). Collaboration ensures that what is discovered will be communicable because it is discovered in the context of group discussions. It forces participants to make their knowledge public and understood by fellow participants.

Although learning communities have immense potential for improving teachers learning and practice, they also present *tensions* that have to be skilfully handled. Grossman et al (2001) note that the essential tension of professional development - that of curriculum development *and* deepening subject matter knowledge - is prevalent in teacher learning communities. Curriculum development focuses on the improvement of student learning, while teachers' attempts at deepening subject matter knowledge focuses on teachers as students of subject matter. These two perspectives are essentially a contrast between the promise of direct applicability to classroom practice and the long-term goal of personal intellectual renewal. While these two foci can be held in a productive tension, they can

also be at odds with each other (Grossman et al 2001; Bolam and McMahon 2004; Adler and Reed 2002).

Grossman and colleagues note that some participants are product driven, such as wanting to develop teaching packages; others have as their aim the need to acquire subject matter knowledge through reading (Grossman et al 2001). They assert that teachers' intellectual backgrounds determine their inclination to a large extent and while there is support for the notions of lifelong learning, the occupational reality of teaching does not permit the time and space for teachers to read without an immediate apparent goal. Reading and turning newly acquired subject matter knowledge into concrete ideas for teaching certainly is a challenge for most teachers. The question of how much guidance and structure to bring into conversations and seeking an appropriate balance between presenting information and facilitating teachers' construction of new practices is a dilemma that must be carefully considered. Project leaders must negotiate their way between the teachers' current thinking and the subject matter or content to be learnt. The issue of balance can be addressed by drawing on the unique sets of knowledge and skills offered by researchers and teachers. Ideas that emerge in a well-balanced learning community are jointly produced and further the understanding of all participants (Putman and Borko 2000).

A way to address the tension described above is to start from the premise or basic assumption that teachers cannot teach concepts they themselves have not mastered. An important rationale for the existence of a learning community "is to mitigate teachers' negative affect around difficult subject matter" (Grossman et al 2001:962).

The issues of distributed cognition and the essential tension in learning communities are central to the present study. Attention is drawn to the notion that participants in a learning community may have differing abilities and knowledge that they share with each other. The above discourse also highlights the essential tension in learning communities - namely that between curriculum development *and* deepening subject matter knowledge -

and offers insights into how learning communities and their individual participants negotiate the essential tension.

In summary, the overview of the literature on learning communities points to increasing faith in learning communities as vehicles for teacher development. Researchers have presented useful insights into various community formations. Although general agreement does exist about the positive outcomes of learning communities, relatively little has been written about why and how learning communities work. Much of the research on learning communities has been carried out on contrived learning communities that have either been set up by researchers or are the results of institutional prescription. Such community formations are often conceptualised with a predetermined agenda that may be in conflict with that of the community members. Research into voluntary teacher learning community formations is scarce. Much is still not known about how such voluntary formations sustain their existence. Issues on which the literature is silent or offers limited insight include, what constitutes an optimal size for a teacher learning community, the frequency of meetings, finance, the extent of the transfer of knowledge and skills to the classroom context, addressing the essential tension in teacher learning communities, and understanding the relationship between different levels of membership.

It is clear that there is a dearth of literature on teacher learning communities in South Africa. It is important to re-emphasise that research into teacher learning communities has largely been carried out in developed countries, the results of which are often difficult to extrapolate to a developing country like South Africa.

2.3 BROAD TRENDS IN CLASSROOM RESEARCH SINCE THE 1960S

A central question that this research study attempts to answer concerns how teachers who had experienced professional development in a learning community interpret and enact the new Economic and Management Sciences (EMS) curriculum. This aspect of the study entails research into teachers' classrooms and an examination of how the context in which teachers work influences teaching and learning. This section presents a brief

historical overview of research into classrooms and attempts to locate this particular aspect of the present research study. It attempts to reflect the broad trends in research on teachers over the last four decades. The intention is to describe the dominant trends as they emerged historically during each era.

A prominent feature in the 1960s was a preoccupation with implementation strategies. Researchers did not go into classrooms to conduct open-ended research. The research focus was on developing 'teacher-proof' materials that were intended to improve the effectiveness of schools. The school was seen as an institution where, if the right quality and mix of inputs were selected, then this would translate into the desired outputs. This implementation approach was commonly referred to as the input-output analyses of schools that evolved from the Tyler rationale for curriculum development (Schubert 1986). According to Goodson (1992:23) "...teachers were shadowy figures on the educational landscape mainly known ... through large scale surveys ... of their position in society. Teachers ... were present in aggregate through imprecise statistics..." This era portrayed teachers as 'villains' who were responsible for the underachievement of school pupils. The dominant research paradigm during this period was the product-process research paradigm (Freeman 1996).

The work of Lortie (1975) strongly influenced research in the 1970s. His renowned book *Schoolteacher: A Sociological Study* highlighted the dearth of empirical research on actual classroom teaching (Lortie 1975:vii). The late 1970s saw a shift in focus to a concentration on the constraints within which teachers worked. "Teachers were transformed from villains to victims ... of the system within which they were required to operate" (Ball and Goodson 1985:87). This orientation is evident in the work of researchers like Delamont (1976), Woods (1979), Hargreaves (1978), and Shulman and Elstein (1975) who were prominent during this period.

The late 1970s and early 1980s saw the scene set for the commencement of contextually sensitive research focussing on the study of teachers' lives and careers. The early 1980s was, however, a somewhat turbulent period in educational research in both Britain and

America. Goodson (1992) and Calderhead (1993) reflect on the negative effect of Thatcherism on 'socially curious' educational research in Britain and the conservative patterns of educational reform that emerged during the Reagan administration. They argue that the emergence of conservative politics rapidly affected the context of educational research. The direct effect was the marginalisation of studies on the context of teachers' work because of the withdrawal of funding opportunities for this type of research. Research during this period viewed teachers as thinkers and as researchers. Dominant research emphases were on life history research, teachers' thinking and decision-making, action research, and collaborative research. Prominent researchers within this tradition included Zeichner (1987), Alrichter, (1986), Carr and Kemmis (1986) and Calderhead (1987).

In the 1990s teachers began to be framed as complex, contradictory individuals. Educational research illuminated the complexity of postmodern society, knowledge, and the rapidly changing social context. Prominent researchers in the field included Kennedy (1991), Goodson (1992), Knowles (1992), Freeman (1996) and Johnson (1996).

Reflection on the research on teaching since the 1960s thus reveals a constant change in the perspectives on the role and identity of the teacher. As we have seen above, the 1960s viewed the teacher as a villain, accountable for pupil underachievement. This view was altered in the 1970s with teachers being regarded as victims of the context in which they operate. The 1980s witnessed teachers being elevated to the status of individual thinkers and researchers, and in the 1990s, researchers started to acknowledge teachers as complex and contradictory individuals.

The purpose of presenting this brief overview of the research patterns and trends is to locate the present study within this broad frame. The study has much in common with research carried out by researchers during the late 1970s and early 1980s, and it is for this reason that the exposition of key concepts used in this study will be drawn from research carried out during this period. A prominent research paradigm during this period was symbolic interactionism.

Symbolic interactionism offered a 'demanding and extensive' programme of work for sociologists, yet it seemed to have been eclipsed before much of the programme could be realised (Hargreaves 1993). The movement of mainstream sociology (at the time) towards Marxist perspectives (which shifted the focus of educational research towards 'macro' approaches), the development of phenomenology and ethnomethodology and the influence of conservative political undercurrents were key reasons for symbolic interactionism going 'out of fashion'. Yet the merits of symbolic interactionism endow it with lasting relevance: "if it can realise its own potential, symbolic interactionism has an assured future in the vast sociological enterprise, whatever changes in fashion it may encounter" (Hargreaves 1993:150).

2.4 ASSOCIATED CONCEPTS UNDER STUDY WITH PARTICULAR REFERENCE TO 'TEACHER STRATEGIES'

The following section provides an exposition of the research concept (symbolic interactionism) and a discussion of related concepts such as context, culture and strategies that have direct relevance for this study. Symbolic interactionist research entails conducting research by observation and participation and not by testing, measuring and experimenting. It is a study of face-to-face interaction and it attempts to understand social action from the perspectives of social actors themselves as opposed to developing theories in general. Symbolic interactionists share a theory or a set of theories that derive in the main from the work of G.H. Mead (Delamont 1976). Human action is largely symbolic, which means it involves interpretation. When people interact, each person is constantly interpreting her own and other acts, reacting, and interpreting and redefining the situation. The human being is a constructor of her own action and though guided by culturally influenced perspectives, still carries the essence of individuality. W.I. Thomas's often-quoted phrase cited in Woods (1980:20) states that: "If men define situations as real, they are real in their consequences". What this means is that it is the *interpretation* of reality that is important because of its effects on thoughts and evaluations of situations. People interact through symbols, that is, stimuli that have

learned meaning and value for them (Woods 1983:1). The shared meaning of many of these symbols facilitates interaction between people. Often, different individuals interpret situations differently and in the school context, while school may be a 'joyful and liberating arena' to some people, to others it may appear 'dull and restrictive'. One possible reason for this is that some participants have more power than others and may be able to enforce their definition of the situation on others (Delamont 1976).

A central interactionist construct is 'context'. A context is a situation that is constructed as a result of people's interactions and interpretations of the symbols around them (Woods 1983). Irrespective of the 'prevailing official definition' of what the context is, or what the circumstances are, an individual's definition of the context derives from her personal interpretation of what appears to be real to her. Schools may have a range of different contexts and people's interpretations have been shown to differ among them (see Wickham 1998; Wedekind 1995; Reeves 1997). Because contexts are constructed, it is the task of the interactionist to discover how they were constructed, and not to take them for granted (*ibid.*). Context is more than just the place where something happens; it also has an influence on what happens.

The concept of significance to this study is the one of *strategies*, and for this reason a more elaborated discussion of this concept is provided. The germinal work of Jackson (1968), Lortie (1975) and Delamont (1976) triggered an overwhelming interest in classroom-based research and significantly influenced the work of researchers like Woods (1979, 1980, 1983), Lacey (1977) and Pollard (1982) who specifically investigated the area of teacher strategies.

The concept of 'strategy' is derived from interactionist theory (Woods 1980). Strategies are ways of achieving goals. They are pedagogical mechanisms or devices formulated by teachers to deal with the difficulties under which they work. They are patterns of 'repeatable acts' designed to serve 'long term' rather than 'short term' objectives, and are linked to broad general aims (Woods 1980). "It has been shown that there is a major disjunction between what people say and what people do ... because of an inevitable

distinction between ideals and practice...” (ibid.:18). Increasing pressures on teachers frequently completely frustrate educational aims to the extent that teachers are forced to adopt certain strategies that masquerade as teaching. Educational goals are almost always impeded by obstructions that might arise from “inadequate resources, a high teacher-pupil ratio, the recalcitrant nature of some pupils, and the organization of the school” (Woods 1983:10).

Teachers develop a range of strategies that constantly change depending on the nature of the situation. “Developing and maintaining strategies is not a simple matter. The more complicated the goal, the more complex the strategy ... It is the problems that intervene between intention and risk that give strategies their character. Schools are places that invite complex strategies, for (teachers’) ideals are strong, yet the gap between ideals and practice is large” (Woods 1983:10). Beginning teachers whose ideals are more pronounced have to deal with disjunction between their theories and practice. In his study of student teachers, Lacey (1997) identified three types of social strategy for dealing with difficulties. First, ‘strategic compliance’ which refers to a situation where an individual merely complies with the demands of a situation in order to survive; secondly, ‘internalised adjustment’ is when an individual makes a change in her thinking or modifies her thinking about a situation to deal with the demands it creates; and thirdly, ‘strategic redefinition’ is when an individual interprets the conditions of a situation so that the problem is perceived as something that can be dealt with at another appropriate level.

A complex theoretical model for understanding teachers’ coping strategies was developed by Pollard (1982). In this model there are three ‘analytical layers’ for understanding the interactive process of coping strategies. The first two layers, those of ‘social structure and organisational leadership’ and ‘institutional bias’ are ‘macro layers’ while the third, that of ‘classroom social structure’ is, a micro layer concern (Pollard 1982:32). He also points to the physical and material structure of the classroom setting, biographical factors, (social status and cultural perspectives) of both teachers and pupils as important variables in the analysis of teachers’ coping strategies. He refers to the concepts of

'accommodation' and intimates that the classroom provides a context for negotiation between teachers and pupils where each establishes a "set of understandings that allow for mutual survival" (Pollard 1982:35). Coping strategies represent responses by teachers to situations caused by the contexts of the classroom and school. Hargreaves's notion of the concept of strategies (cited in Woods 1980:11) emphasises the authoritative nature of the teacher's role when he suggests that "strategies are constructed responses to institutionally mediated constraints but within the framework predicated on the tacitly accepted understanding of the teacher's dominance". He further states that the imposition of 'situational constraints' can be seen as the products of various macro-structured factors such as teacher-pupil ratio, resource levels and compulsory attendance. He views coping strategies as linking structural questions to interactionist concerns. Woods (1980:12) summarises the effect of 'macro' policy on the 'micro' context by stating that coping strategies:

... are answers to problems generated by constraints which are inextricably bound up with wider society. Teachers ... are wrestling with educational goals in current capitalist society that are fundamentally contradictory ..., operating under material conditions which are a product of planning and politics; and assailed by a number of differing educational ideologies.

As long as coping strategies are seen to be working, they become taken for granted as legitimate and even unavoidable constituents of teaching.

In his study of teachers in a given situation, (Woods 1979:149-173) identified eight survival strategies that teachers adopted: socialization (where pupils are socialized into the existing school culture); domination (referring to punishment or admonishment); negotiation (entailing exchange, bribes, flattery, promises, apologies and threats); fraternization (working for good relations and increasing pupils' sense of obligation); absence or removal (off loading troublesome pupils, teacher absenteeism, absconding); ritual and routine (following set patterns, expressive order and imposed structure); occupational therapy (the purporting of busyness, time wasting); and morale boosting (mentally neutralizing the survival problem by laughter and rhetoric). He states that a feature of successful survival strategies is their 'permanence and ongoing refinement'.

They often persevere beyond their usefulness thus creating further problems for which more survival strategies have to be developed. In his 'parasite' analogy of strategies, Woods (1979:146) explains that: "They expand into teaching and around it like a parasite plant, and eventually in some cases the host may be completely killed off. Like parasite, if they kill off the host, they are a failure and they must die too; for they stand starkly revealed for what they are". However, Woods (1980) explains that because strategies are products of constructive and creative activity, they are also 'adaptive'. They are answers to dilemmas spawned by constraints and contradictions that have their origin in wider society. Teachers in a rapidly changing environment have constantly to generate new strategies to deal with new situations that arise.

In an analysis of the South African context using the symbolic interactionist construct of 'strategy', Mattson explores how teacher identities are constructed within the tensions of policy and practice (Mattson 2000). She argues that policy constructs teachers as objects and that teacher strategies arise within sites of contradiction and constraint. These contradictions and constraints are generated within the wider social structure. Teachers' 'mimetic' strategies become survival strategies. They develop 'unfounded confidence' (ibid.). Mattson refers to this phenomenon as 'false clarity'. Teachers are stripped of their sense of plausibility. This situation is compounded by the negative stance of new curriculum policy towards the former content-based approach to teaching and learning. Teachers' main source of identity is under threat from the new emphasis in teacher education on methods and outcomes (ibid.). Mattson suggests that teacher education should help teachers develop their confidence in the disciplinary knowledge they teach. This will help them to develop their own sense of plausibility without outside agencies trying to reform them (ibid.).

The number and complexity of the unknowns in teaching does prove to be problematic (Woods 1980:18). This gives rise to negotiation and the formulation of strategies that usually create a dissonance between theory and practice. "Individual teachers are faced by the harsh realities of the classroom that impede and often frustrate the practice of teachers' expertise", forcing them to employ an 'educationist' perspective in the

staffroom and a 'pragmatic' teacher role in the classroom (Woods 1980:19). The work of Keddie (1983) supports this argument. She introduced the concepts of 'educationist context' – what teachers as professionals believe at an idealistic theoretical level - and 'teacher context' – the conditions and constraints they have to cope with in practice - and asserts that there is a disjuncture between the two contexts. She further argues that teachers in their position of power (in classrooms) perpetuate and maintain the social order by dictating what counts as acceptable knowledge. Pupils who can master subject knowledge as prescribed by societal structures and presented by teachers can attain success in such a system. Hammersley (cited in Woods 1983) states that knowledge and ability are firmly related to the school framework and there is no universal agreement on their definition.

It becomes clear that the constraints of the context under which teachers work create challenges for teachers' practice. A "complete understanding of teaching is not possible without an understanding of the constraints and opportunities that impinge upon the teaching process" (Clark and Peterson 1986:258). External influences such as the curriculum, the community and internal constraints such as the physical setting, and resource availability significantly affect teachers' actions. Teachers' thought processes may be similarly constrained because of reduced flexibility in their planning arising from curriculum decisions that may have already been made by education authorities. The challenge for teacher development then is to develop innovative teacher education programmes that empower and enable teachers to offer the official curriculum despite the constraints of the contexts in which they work.

While the thrust of the present research study is to examine teacher learning and the influence of teaching contexts, these issues are explored within the context of the new EMS learning area. The next section explores the field of Economics education by focussing on the nature of the discipline and the pedagogy associated with the discipline. This section locates Economic and Management Sciences in the broader field of commerce, and presents the Department of Education's perspective on the new EMS learning area.

2.5 LOCATING ECONOMIC AND MANAGEMENT SCIENCES IN THE BROADER FIELD OF ECONOMICS EDUCATION

EMS is one of the eight learning areas included in South Africa's new Revised National Curriculum Statement for the senior phase in the General Education and Training (GET) band. The previous primary school curriculum did not include any commerce related subjects. Apart from a few independent schools and ex-model C schools that attempted to implement elements of entrepreneurship education into the curriculum, public schools in general have had limited or no experience of commercial subjects.

The EMS learning area is essentially a uniquely South African formulation that draws mainly on the field of economics and includes elements of the fields of management and entrepreneurship. While research has been conducted into the teaching and learning of the traditional primary school disciplines of Mathematics, Science and Languages (Adler and Reed 2002), research in EMS is virtually non-existent. In the absence of literature on EMS, this research study drew on literature in the field of Economics education as it applied to secondary schools in an attempt to develop a framework with which to locate the core of this new learning area.

The discussion that ensues thus provides an exposition of the literature in the area of Economics education. Research in Economics education may be divided into research on economics teaching and learning at school level and post-school level. Poor student performance in introductory, tertiary economics courses in the United States triggered numerous studies including those by Crawley and Wilton (1974), Bonello, Swartz and

Davisson (1984), Lumsden and Scott (1987), Myatt and Waddle (1990), Tay (1994) and Lopus (1997).

In South Africa, research in economics education at post-school level has been confined to mainly quantitative studies, measuring rates of student 'through-put' from one level to the next. The most recent research in the KwaZulu-Natal region was carried out in the former University of Natal, (Hesketh, Mbali and Mkhize 1994), and in the former University of Durban-Westville (CEREP 1998). While the scope and research methodology of each study was quite different, both were a direct response to alarming failure rates among first year economic students.

School-based economics research is basically non-existent in the South Africa context. Academic writing in the area of economics teaching and learning is rare. Journals that carried articles of economic education interest, namely *Educamus* and an occasional publication called *The Commerce Teacher*, provided very superficial insights into commerce teaching and were in the main edited by writers who had firm roots in the doctrine of Fundamental Pedagogics (Suransky-Dekker 1998). Maistry (2001) highlights the paucity of research into economics education. Oliver's comment (1975:13) still holds true for the present South African economics education research context:

There has been an embarrassing difference between the rigour and elegance with which economists have written about economics and that which they have thought and written about the teaching of economics. There is much to be proud of in modern professional economics but less in what is known and published about either economics teaching methods, or the educational role of economics. One particular facet which has had little attention is the nature of economics and how that might affect both teaching methods and the educational functions that the subject is expected to perform.

To determine the nature of a particular form of knowledge is to determine the assumptions that define a discipline's core. This entails determining the discipline's key concepts. The vehicle involved in the transition from the core vision to the complex events of the real world is essentially the methodology of the discipline. According to Jeffreys (1987), economic science methodology is essentially a matter of deductive

analysis and that determinants of success of the deductions made are the laws of rationality and the logic of choice. The concept of rationality in economics implies the law that individuals always choose that option that is best, given the available knowledge: Any individual in her economic life will never undertake action that adds more to her losses than her gains. Choice behaviour is an essential characteristic of economics and is mediated by the effects of scarcity and the need to act rationally. The discipline economics has a distinct mode of thinking and this distinct mode is embodied in its dominant models. The mode of thinking is deductive rationality in constrained environments (Jeffreys 1987). Each key economic concept must have some element of deductive rationality in constrained environments.

The key concepts (opportunity cost, efficiency and marginality) that make up the core of economics may be described thus:

Opportunity cost is a prime example of a deductive concept that organises other concepts. It helps determine a set of subordinate concepts. The central assumption of opportunity cost is that each act excludes other possible acts at any given moment of action. It is a necessary condition for the concept of economic rationality. There is no economic problem that does not involve the perspective that each alternative has a cost and that one of these alternatives will have the least cost. The search method for the least cost is essentially deductive.

The concept marginality derives its importance from the fact that the appropriate unit of appraisal in relation to maximising economic behaviour is that of the increment. The mathematics of maximisation is a question of marginal analysis (where total revenue can be equal to or exceed total costs without profits being maximised). Marginal analysis allows the concept of rationality "... to function dynamically in models. Marginal thinking characterizes the psychology of a rational maximising agent" (Jeffreys 1987:23).

Efficiency in economics functions as a limiting concept. It is a way of assessing the operation of other key concepts (marginal decisions must produce efficient results and the cost of different opportunities is assessed through relative efficiencies). The concept is

directive in that it guides choices. Decisions can be rational but inefficient. The most efficient agent will be one with perfect information and perfect mobility. The relationship between the key economic concepts is well articulated as follows:

Rationality and opportunity cost are the key philosophical concepts with greatest power in defining the economic perspective. Marginality and efficiency are the key operational concepts with the greatest power in permitting the perspective to function predicatively. Taken together, marginality and efficiency form the cutting edge of the discipline. Thus we see the world through the perspective of concepts while we perform and create in the world through the operational concepts (Jeffreys 1987:26).

To summarise, the nature of economic knowledge is determined by the economic perspective, which itself is determined by the use of deductive analysis combined with an agent-specific concept of rationality and an act-specific concept of opportunity cost.

The deductive method in economics has many implications for teaching. Oliver (1975:20) argues that classroom teaching should take into account the nature of economics reasoning. If students are simply presented with the results of economists' deductions as 'received doctrine' this would conflict with the view of the nature of economics as a *method* leading to 'tentative' conclusions. He further asserts that teaching economics in this way might successfully reach various educational goals such as an examination pass but it cannot successfully achieve the goal of imparting economics training. Pupils are more likely to remember economic theory, realise its significance, have confidence in it and be able to make use of it if they are presented with situations in which they have to make deductions for themselves.

Reflecting on economics education in the United Kingdom, Ryba (1987:216) accurately summarises the traditional approach to economics teaching as follows:

The traditional approach to economics teaching was of a systematic formal unidirectional kind in which the teacher aimed to structure verbal presentation of material in a way that encouraged its comprehension and either contributed to its memorization or made possible the compilation of notes and summaries from which the content could be learnt... in schools it can still be found in formal teacher-dominated lessons. At its best, and in the right circumstances, such formal teaching can be remarkably successful and

still has its place in the teacher's armoury of techniques. But, not infrequently, it degenerates to the dull, boring and educationally unproductive business of filling passive learners' minds by strenuous efforts of the teacher. Fortunately, despite the pressures of examination syllabuses and the temptations that teachers feel to follow this easy course, such teaching is on the wane.

Ryba goes on to state that in the case of economics, change from a teacher-dominated approach to learner-centred approaches seem to be much slower than in other subjects. A similar scenario appears to be prevalent in the South African context where the challenge facing economics education is to transform the traditional content-based approach to teaching and learning to a learner-centred approach (Maistry 1998).

Because teachers of economics persist in using traditional teaching methods, "... one can be forgiven for believing that ... students succeed in understanding economic issues and principles despite their teachers rather than because of them" (Burkhardt 1976:1). The task of the economics teacher centres on the creation and organisation of a stimulating and rewarding learning environment for pupils, one which seeks to ensure their active and willing participation in learning experiences. Students should encounter theory and issues in the most practical way possible. Teachers should select curriculum materials that will enable pupils to analyse and interpret their economic environment, to make value judgements and develop attitudes. "It involves much more than the acquisition of economic facts" (Burkhardt 1976:7). As a result of constantly changing economic theory, pupils ought to be taught the processes of problem solving through using current theory. Walstad (1991:61) states that problem-solving or decision-making lies at the heart of economics. The discipline developed from the need to solve the economic problem of scarcity facing individuals and societies. Economic problems are the reason for the existence of economics because they give rise to attempts to solve them. The challenge for the economics teacher is to facilitate the process by which pupils develop an appreciation of and ability to participate in the economics way of working (Thomas 1987:56). Thomas further emphasises that what is crucial to economics education is that pupils are expected to analyse and discuss problems 'in an economics way' (ibid.:57). This entails an understanding and appreciation of the purpose, procedures and rules of

economic discourse, the economics perspective and methodology. Economic knowledge is more a matter of 'knowing how' as opposed to simply 'knowing that'. "No amount of listening to the teacher can ensure the internalisation by the learner of the 'knowing how' side of what he needs to learn in economics" (Ryba 1987:219).

Good economics teaching has always involved learner-centred learning activities that might include case studies, data analysis, theoretical exercises and industrial visits. Brainstorming, debate, investigations, decision-taking exercises, group tasks and presentations also have a valuable part to play in economics teaching and learning (Wall 1991:17). Wall further argues that it would take some skill and experience to use these sometimes time-consuming approaches, *and* prepare pupils for a demanding terminal examination.

An important decision facing an economics teacher is the selection of the type of classroom assessment that will be used for assessing achievement in economics Walstad (1991:61). The argument is that if economic decision-making and problem solving are the modus operandi for the teaching of economics, then assessment ought to take on the same approach. In his reflection on economics teaching in secondary schools, Maistry (1998) highlights the fragmented and disjointed nature of teaching, learning and assessment in economics. "There exists an artificial separation of teaching and learning on the one hand and assessment on the other. For years, the matriculation examination (a traditional content-based rote learning instrument) determined the way teachers structured their learning programmes" (ibid.:1). He further states that teachers are acutely aware of how overloaded the economics syllabus is and are under constant pressure to teach traditional content. A consequence of this overloading is that too many pupils emerge with pass grades based on a quite limited understanding of the subject matter (Wall 1991).

It certainly appears as if the designers of EMS and the new Revised National Curriculum Statement in particular assume that teachers are sufficiently knowledgeable with respect to the fundamental principles of the 'discipline' as well as the core content knowledge

and pedagogic skills associated with it. For this reason, I provide a brief outline of the essence of the 'discipline' from the perspective of the Department of Education as this research study is based on the premise (derived from the researcher's tacit knowledge and pilot research findings) that the above assumption is a fallacy.

The new Revised National Curriculum Statement (Department of Education 2002:4) defines the EMS learning area as follows:

The Economic and Management Sciences Learning Area deals with the efficient and effective use of different types of private, public or collective resources in satisfying people's needs and wants, while reflecting critically on the impact of resource exploitation on the environment and on people.

In particular, the EMS Learning Area deals with:

- The nature, processes and production of goods and services;
- The South African economy and the socio-economic systems in different countries;
- Financial management and planning skills;
- Entrepreneurial skills and knowledge needed to manage self and the environment effectively.

The learning area "... aims to equip learners with knowledge, skills, values and attitudes that will enable them to adapt, participate and survive in an economically complex society... (and) ... aims to promote productivity, social justice and environmental sustainability" (ibid.).

The new Revised National Curriculum Statement envisages that the above will be achieved by enabling learners to:

- Become economically literate;
- Understand and apply economic and management principles and concepts in a responsible and accountable way;
- Understand and reflect critically on the wealth creation process;

- Understand and promote the importance of savings and investments for economic development;
- Develop entrepreneurial skills needed to play a vital role in transforming the country's socio-economic environment, and reducing the gap between the rich and poor; and
- Understand the impact of economic activities on human, natural and financial resources and socio-economic systems.

Some of the 'unique features' of the learning area include the study of the economic problem, the economic cycle, reconstruction, sustainable growth and development, the economic environment, leadership and management, entrepreneurship and financial and consumer knowledge and skills.

It is clear that the learning area covers a wide-ranging area. The new Revised National Curriculum Statement proposes a perspective that accentuates the need for an 'analytic-theoretic' approach in the teaching of EMS. It underscores the notion that EMS should not be treated as an abstract subject. It discourages the mere memorising of definitions and laws and regards this as unsound. EMS should be treated as a dynamic, futuristic learning area.

As discussed earlier, the new EMS learning area has its roots in discipline of Economics and it also draws on elements of management. The literature on Economics teaching (discussed above) advocates that because problem solving or decision-making is a central feature of Economics, teachers have to create learning experiences that will help pupils to develop knowledge and skills that will enable them to analyse and discuss problems 'in an Economics way'. Knowledge of Economics subject matter and its associated discourse as well as the pedagogy associated with the discipline places a unique set of demands on the new EMS teacher. It must be noted that school textbooks designed for the GET phase simply provide superficial content knowledge of the EMS discipline. Teachers' who rely on such textbooks as the only source of knowledge will struggle to master the core of the discipline. This makes EMS teacher development an imperative. The challenge in this

field of teacher development is to develop programmes that will induct EMS teachers into the deeper structure of the discipline.

2.6 IMPLICATIONS OF THE LITERATURE FOR THIS STUDY

Implications of the different elements of the literature review for the present study will now be briefly addressed. The review of the literature afforded a basis for exploring, illuminating, clarifying and interpreting the various concepts and principles involved in the present research study on EMS teacher learning and teaching. Emerging from the literature were several issues relevant to the study. The literature review:

- Revealed the increasing currency of the principles of teacher learning communities and their potential for teacher development despite the fact that there is still much to be learnt about this model;
- Informed the conceptualisation / nature of the TEMS programme (outlined in detail in Chapter One),
- Reflected changing trends in classroom research over time,
- Drew attention to the scope and range of problems experienced by teachers in their daily practice by focussing on the key interactionist concepts of context and strategy, and their implications for teacher development,
- Highlighted the dearth of research in Economics education in particular, and the complete absence of research into Economic and Management Sciences teaching and learning,
- Illustrated the nature of disciplinary competence and skills demanded of teachers who are required to teach the new EMS learning area.

Drawing on the literature in its conceptualisation, the present research study set out to investigate EMS teachers' learning through participation in a teacher development project, structured to enhance participation in a learning community. It explored teachers' biographies and examined how the context in which teachers work influenced their teaching and learning.

2.7 CONCLUSION

This chapter began by presenting an overview of the literature on teacher learning communities and a discussion of the relevant research on teachers carried out over the past four decades. Key concepts associated with the study were then elucidated. This was followed by a presentation of a disciplinary focus, citing the work of key writers in the field of Economics education. The chapter was concluded with a reflection on the implications of the literature review for this research study.

Chapter Three focuses on the theoretical framework of this research study.

CHAPTER THREE

MY THEORETICAL POSITION AND AN INTRODUCTION TO WENGER'S THEORETICAL/CONCEPTUAL FRAMEWORK

3.1 INTRODUCTION

The purpose of this research study was to investigate Economic and Management Sciences teachers' learning in a teacher learning community of practice, designed in accordance with the principles of social practice theory. This chapter begins by presenting the theoretical orientation of this research study so as to create the context for the theoretical framework that is later established. An explanation of the coherence between the methodological orientation and the theoretical framework is presented. This is followed by a discussion of the origin and development of Wenger's social practice theory of learning by examining his earlier work with Lave, namely, *Situated Learning: legitimate peripheral participation* (Lave and Wenger 1991). An exposition of the crux of the theoretical framework used in this research study, namely, *Communities of Practice: Learning, Meaning and Identity* (Wenger 1998), is provided together with an outline of Wenger's most recent work with McDermott and Snyder, namely, *Cultivating Communities of Practice: A Guide to Managing Knowledge* (Wenger, McDermott and Snyder 2002) in which the authors extend Wenger's 1998 work. A detailed account of Wenger's theory is presented since it provides the theoretical and conceptual framework for the analysis of data in Chapters Five, Six and Seven.

3.2 THE THEORETICAL ORIENTATION OF THE STUDY

In section 2.4 of Chapter Two, I introduced the concept 'symbolic interactionism' in an attempt to locate the concept 'strategies'. Symbolic interactionist research involves interpretative research that is concerned with how people see things and how they construct their meanings (Woods 1996). It is located in the qualitative paradigm. Contextual factors play an important role in influencing teachers and teacher learning and it is for this reason that a qualitative research study was considered to be most appropriate

(Walford 2001; Anderson 1999). With the focus of the present study on the nature of teacher learning in a community of practice, a qualitative approach that engaged the tenets of interactionist ethnography was deemed effective in capturing the process and in developing a rich understanding of contextual factors that supported and hindered teacher learning. The concept 'ethnography' will be discussed in detail in Chapter Four.

The central questions of qualitative research concern issues that are "neither obvious nor trivial" (Erickson 1986:121). They concern issues of human choice and meaning, implying that every assumption about meaning ought to be subjected to critical scrutiny. Qualitative research is a form of inquiry that explores phenomena in their natural settings and uses multi-methods to interpret, understand, explain and give meaning to them (Anderson 1999). The use of qualitative methods assumes that reality is constructed by individuals interacting in their social worlds. These meanings are located in individuals' experiences and are mediated by the researcher's perceptions (Merriam 1998).

Denzin and Lincoln (1994:2) point out that qualitative research has a long and distinguished history. They offer the following definition:

Qualitative research is multi-method in focus, involving an interpretative, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomenon in terms of the meanings people bring to them. Qualitative research involves the studied use of a variety of empirical materials- case study, personal experience, introspective, life story, interview, observational, historical, interactional, and visual texts – that describe routine and problematic moments and meanings in individual's lives.

Qualitative research tends to be concerned with the character, tone and constituents of a phenomenon while quantitative research is measurable and concerned with statistical interpretations of reality. Both qualitative and quantitative paradigms have much to offer and can often be skilfully used together (Miles and Huberman 1994). The duality of positivist and qualitative research is something of the past (Mouton 1996) and many researchers agree that a false dichotomy has been created between these two approaches.

However, Jessop (1997:40) maintains that:

Arguably, qualitative methods are more sensitive to the nuances and texture of complex social realities than the scientific method. This is linked to their reliance on textual sources of data, which are more inclined to open up shades of meaning than numbers. Qualitative methods are also particularistic in intent rather than universally generalisable to other contexts, as is in the case with most quantitative research.

My research study was certainly rooted in an interpretative, qualitative paradigm, as this approach was more likely to provide opportunities to discover meanings and realities and rich tones and shades of the research context. Qualitative research affords a better means of reflecting social reality than quantitative research. Qualitative researchers are interested in meaning, that is, how people make sense of their lives, what they experience, how they interpret their experiences and how they structure their social world (Merriam 1988). Interpretivist research assumes that human action is inherently meaningful. In order to understand a particular social action, it is important for the researcher to grasp the meanings that constitute that action. Human action has a certain intentional content that suggests the kind of action that it is. The meaning of an action can only be grasped in terms of the systems of meanings to which it belongs (Schwandt 2003).

Lincoln and Guba (1985) coined the term 'naturalistic inquiry'. The following are the key features of this approach:

- The context influences the phenomena under study. Phenomena under study can only be understood in relationship to the time and context that spawned the said phenomena. This implies that research takes place in a natural setting, that is, where the phenomena actually occurred. These settings are not contrived but occur naturally. The researcher should be aware of the various meanings that may exist in a given context. The aim of research in a natural setting is to get a real feel for the 'vibe' and ethos of the research site.

- It places value on the researcher as a research instrument. The researcher is at the heart of the research process. She chooses the research project, fashions the design and is centrally involved in data analysis and interpretation. It requires that the researcher be flexible, responsive, adaptable and have very well developed interpretative skills in order to be regarded as an 'authentic' research instrument. It becomes evident then, that objectivity in the positivist sense has no place in this concept. It is in fact replaced by notions of fairness, trustworthiness and credibility. Qualitative research is essentially a value-laden exercise where the researcher and the researched are very closely intertwined. Walford (2001) reminds us that even in the scientific paradigm the researched *are* influenced by the researcher. Jessop (1997) notes that the implication of the observer's paradox is that by observing a particular phenomenon that very phenomenon undergoes change and it brings into question whether a researcher can ever be able to operate in a completely natural setting.
- Qualitative research methods include the use of interviews, observations, document study, journal writing and case studies. Walford (2001) and Anderson (1999) argue that qualitative methods are more sensitive to the tinges and shades of complex social realities than the scientific method. The use of textual sources of data lends itself to rich and varied interpretations and meanings. It offers profound understandings of the world. Qualitative research by its very nature does not make claims to wide generalisations to other contexts as opposed to claims made by most quantitative research. On the contrary, qualitative research is often located in the small distinctive worlds of humans and society and rooted in the lives of people in particular contexts.
- The notion of an emergent design. Qualitative research enquiry is not predictable. This stems from the fact that the focus is on human interactions and the *contextual richness* of this kind of research. The indeterminate and uncertain nature of these social and contextual factors does not warrant a fixed and rigid research design. Walford (2001:1) confirms this 'indeterminate and uncertain' notion in qualitative

research by asserting that the idealised conception of how social and educational research is designed and executed is fallacious. He notes that there is a misconception that research is carefully planned in advance using predetermined methods and procedures, and that 'results' are the inevitable.

Data analysis and data collection are often closely linked and as a result will influence future steps in the research process. Arguably, the most notable issue in the notion of an emerging design is that the nature and purpose of data analysis in qualitative research is the development of hypotheses, research questions and theory from data. This necessitates an emergent design as the researcher makes sense of questions and issues that emerge out of the data. The essential purpose of qualitative research is to understand the lived experience, that is, the social behaviours of the researched as they occur in different contexts.

- The researcher's tacit knowledge is central to the design of the research inquiry. This significant feature of the qualitative research paradigm illuminates its predisposition to foreground tacit knowledge. It is 'upfront' about this position and makes explicit tacit knowledge, thereby ensuring rigour and credibility in the inquiry.

3.3 ORIGIN AND DEVELOPMENT OF WENGER'S SOCIAL PRACTICE THEORY OF LEARNING

Wenger's social practice theory of learning informed the way the TEMS teacher development project was set up and the way the data were analyzed. The TEMS project that was established was based on the assumption that stimulating participation in a community of practice would enhance teacher learning. This assumption was influenced by the work of Lave and Wenger (1991), Wenger (1998) and Wenger McDermott and Snyder (2002) who argue that learning is a way of being in the social world and not a way of coming to know about it. Learning is a way of being and of changing participation and identity within a community of practice.

The main research question in this research into the TEMS sought to examine the usefulness of a social practice theory (as suggested by Lave and Wenger 1991 and Wenger 1998) in explaining the nature of teacher learning in relation to their participation in a community of practice. The study also sought to explore the concepts ‘teacher learning’ and teacher coping strategies and their implications for teacher development.

Developing a theoretical framework for this study involved exploring and analysing the work of Lave and Wenger (1991), Wenger (1998) and Wenger McDermott and Snyder (2002). However, to establish and extend concepts on which these theorists are silent or to which they have not presented comprehensive discussions, I also draw on a wide range of literature in the broader field of socio-cultural and situative perspectives on learning and teacher development. This literature has influenced and shaped my perspective.

While Lave and Wenger’s 1991 contribution to the literature on situative perspectives had laid the foundation for Wenger’s later work, it was in fact his later work that had most significance for the present research study. It is for this reason that a more detailed exploration and analysis is provided of Wenger’s social theory of learning (Wenger 1998). Wenger’s work with McDermott and Snyder (Wenger, McDermott and Snyder 2002) has as its focus the ‘cultivation’ of communities of practice in multinational corporations and therefore has limited implications for this research study.

3.3.1 The work of Lave and Wenger in *Situated Learning: legitimate peripheral participation* (1991)

Lave and Wenger’s theory is based on empirical research on learning as apprenticeship. Their observations of various apprenticeships included Yucatec midwives, Vai and Gola tailors, meat-cutters and non-drinking alcoholics in Alcoholics Anonymous. They locate their work in the broader context of situative learning. In his introduction to their book, William F. Hanks accurately presents their perspective as: “Rather than asking what kind of cognitive processes and conceptual structures are involved, they ask what kinds of social engagements provide the proper context for learning to take place” (Lave and

Wenger 1991:14). Learning is located in the process of co-participation and not in the heads of individuals. It is located in increased access of learners to participation rather than in the acquisition of structure. Learning is regarded as an interactive process with participation and identity as primary features of learning.

Initially people join communities and learn at the 'periphery'. As they become more 'competent', they move more towards the 'centre' of that particular community. Lave and Wenger (1991:29) assert:

Learners inevitably participate in communities of practitioners and ... the mastery of knowledge and skill requires newcomers to move toward full participation in the socio-cultural practices of a community. Legitimate peripheral participation provides a way to speak about the relations between newcomers and old-timers, and about activities, identities, artefacts, and communities of knowledge and practice. A person's intentions to learn are engaged and the meaning of learning is configured through the process of becoming a full participant in a socio-cultural process ... (that) includes ... (and) subsumes, the learning of knowledgeable skills.

Their conception of identity entails learning to speak, act and improvise in ways that make sense in the community. Increasing participation in a community of practice involves the "whole person acting in the world" and focuses on ways in which learning is "an evolving, continuously renewed set of relations" (ibid.:50). The concept of situated learning involves people being full participants in the world and in generating meaning where " ... learning is not merely a condition for membership, but is itself an evolving form of membership" (ibid.:53).

Community of practice is described as:

a set of relations among persons, activity, and the world ... in relation with other ... communities of practice ... (having) an intrinsic condition for the existence of knowledge ... because it provides the interpretative support necessary for making sense of its heritage (ibid.:98).

Lave and Wenger emphasise the centrality of the notion of 'access' in the conception of learning. Access to a range of ongoing activity, established members, information, resources and opportunities for participation is essential so as to achieve full membership of a community of practice. Learning is located in the increased access of learners to the practice of a community. Thus, to maximise learning, one needs to maximise participants' access to participation in the practice of the community that will allow for continued development and evolution of participants' identities.

The notion of 'legitimate peripheral participation' as the most important learning method implies that 'ways of becoming a participant', 'ways of participating' and 'ways in which participants and practices change' are more useful and effective than particular tools and techniques for learning. This has significant implications for conventional approaches to teaching since the "teacher/learner dyad ... (becomes secondary to) ... a richly diverse field of essential actors ... (and) other forms of relations of participation" (ibid.:56). This departure from the conventional traditional teacher/learner dyad suggests a changed emphasis from a focus on teaching to a focus on learning. In fact Lave and Wenger assert that teaching is not a precondition for learning and may not be particularly useful for learning. They base their work on developing a model for maximising learning as opposed to providing a set of guiding principles for teaching. They present a rather negative view of formal learning in educational settings. The model's preoccupation with reconceptualising learning has been at the expense of also reconceptualising teaching. Evidence from a broader literature suggests that it is indeed problematic to underplay significant elements of deliberate pedagogy. Many educationalists would argue that it is dangerous to discount teaching in relation to learning, as most forms of traditional teaching have in fact been successful in relation to learning. This model presents even bigger challenges when applied to the context of learning in schools and the work of teachers as the difficulty with respect to underplaying teaching is particularly great when the theory is applied to *education* contexts.

Wenger's later work (Wenger 1998) continues to disregard the value of teaching and even goes as far as asking: "How can we minimize teaching so as to maximize learning?" (ibid.:267).

Lave and Wenger's work opens up several issues. Their pre-occupation with learning at the expense of teaching in their assertion that teaching is not a precondition for learning begs the question: Where is teaching in learning? It also suggests an alternative way of interrogating conceptions of teaching so as to maximise learning.

Another key difficulty is the over-emphasis on the notion of legitimate peripheral participation as the most important learning process in all situations in a community of practice. The focus appears to be primarily on the learning of newcomers. The concept legitimate peripheral participation is less effective in analysing the learning of established, experienced members of a learning community.

Adopting a notion of situated learning tends to downplay knowledge that is decontextualized, abstract or general. Learning could well occur that is seemingly unrelated to a particular context or life situation. Situated learning foregrounds the fact that new knowledge and learning are conceived as being located in communities of practice. Strong communities of practice may inhibit entry and participation and the generation of new knowledge. Furthermore, Lave and Wenger acknowledge the risk of romanticizing communities of practice. However, their disregard for, or under-appreciation of, the uses of more formal structures and institutions for learning is an issue for contestation.

Lave and Wenger present contradictory understandings of how learning occurs. On the one hand they argue that membership of a community of practice is an essential condition for all learning, yet at the same time they suggest that communities of practice create certain conditions in which only certain learning can flourish. Furthermore, they fail to acknowledge that for some members, membership of the community of practice may have relatively little significance.

3.3.2 The Work of Wenger (1998): Communities of Practice: Learning, Meaning and Identity

Wenger (1998) continued in the same vein as in his previous work with Lave, locating his view of learning from a situative perspective by focusing on learning as participation in the social world instead of focussing on the individual as learner.

He argues that we should adopt a perspective that places learning in the context of our lived experience of participation in the world. Learning is as much a part of human nature as eating or sleeping – it is both life-sustaining and inevitable and people are “quite good at it” (ibid.:3). Learning is a ‘fundamentally social phenomenon’. Wenger asserts that his work is a ‘social theory of learning’ with its own set of assumptions and focus. It ‘constitutes a coherent level of analysis’ and ‘yields a conceptual framework’ that allows the derivation of a set of ‘general principles and recommendations’ for understanding learning. His four main assumptions about learning are that:

1. People are social beings (this principle constitutes the central aspect of learning).
2. Knowledge entails competence with respect to valued enterprises.
3. Knowing involves participating in the pursuit of such enterprises.
4. Meaning is the eventual product of learning and refers to our ability to experience the world and our engagement with it as meaningful (ibid.).

The focus of the theory is on ‘learning as participation’, that is, of learners being active participants in the *practices* of social communities and constructing *identities* in relation to these communities.

Meaning, practice, identity and community are the four elements that comprise Wenger’s social theory of learning. These elements are ‘deeply interconnected and mutually defining’ (ibid.:5). Even if one were to displace any of the four peripheral components with learning and position the displaced component in the centre, the model will still

make good sense (see Figure 3.1). The concept ‘community of practice’ is a constitutive element of a broader conceptual framework, whose ‘analytical power’ resides in its ability to integrate the components of the model (ibid.:6).

Figure 3.1: The Elements of Wenger’s Social Theory of Learning



The usefulness of Wenger’s theory of learning in a community of practice lies in its common sense simplicity which he aptly describes as follows:

... the concept community of practice is neither new nor old. It has both the eye-opening character of novelty and the forgotten familiarity of obviousness – but perhaps that is the mark of our most useful insights (ibid.:7).

The focus on participation implies that for individuals, *learning* is an issue of engaging in and contributing to the practices of their communities. For communities, it entails refining their practice and ensuring new generations of members (Wenger 1998). This implies that learning cannot be a separate activity. “It is not something we do when we do nothing else or stop doing when we do something else” (ibid.:8) Learning is something we can ‘assume’, irrespective of whether it is visible or not or whether we

agree with the way it takes place or not. Even “failing to learn involves learning something else instead” (ibid.). Learning is an integral part of our daily lives and is represented by our participation in our communities and organisations. While we may know this, we have not developed systemic ways of talking about this ‘familiar experience’.

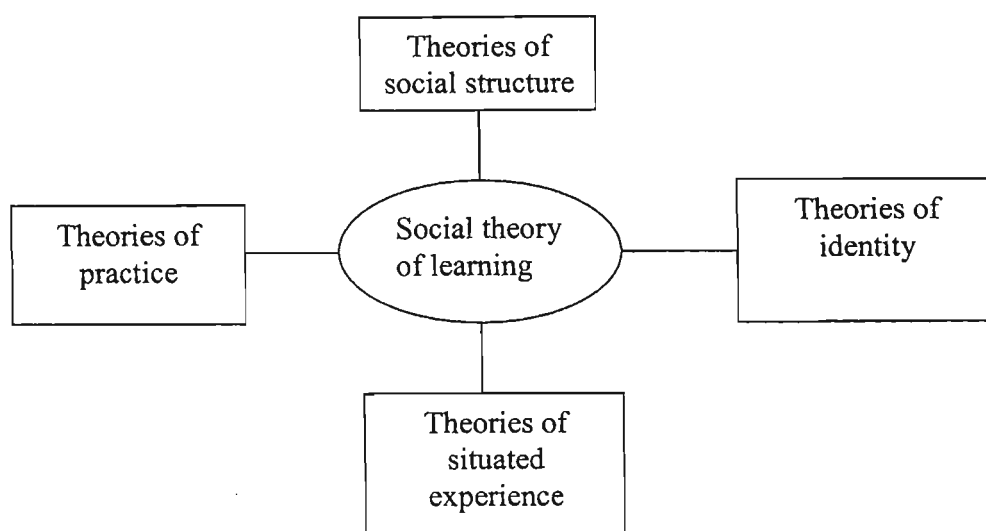
Our perspectives on learning are important because what we think about learning influences both where we recognise learning and our actions, should we wish to influence learning (Wenger 1998). Our conception of learning has a profound effect on interventions and models that we prescribe for learning. “(A) key implication of our attempts to organise learning is that we must become reflective with regard to our own discourses of learning and to their effects on the way we design for learning” (ibid.:9).

(K)nowing involves primarily active participation in social communities” (Wenger 1998:10); it is about valuing the ‘work of community building’ and ensuring that “participants have access to the resources necessary to learn what they need to learn in order to make decisions that fully engage their own knowledgeability (ibid.).

A social theory of learning is not a purely academic exercise, but is of value to practitioners including teachers, managers and policy makers (ibid.).

The following figure locates social theory of learning:

Figure 3.2: Two main axes of relevant traditions

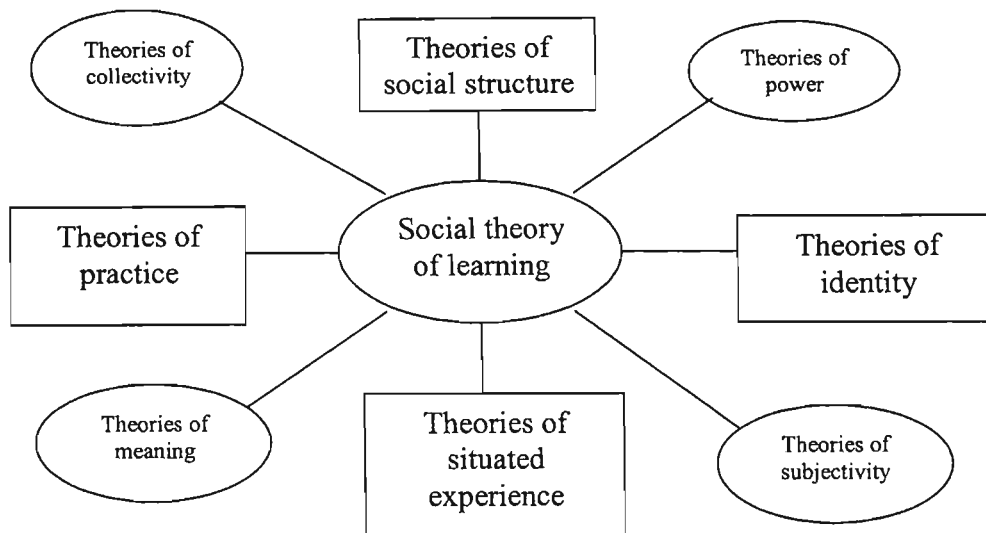


Learning is located at the intersection of the dominant intellectual traditions along two main intersections (see Figure 3.2). The vertical axis reflects a tension between theories that give primacy to social structure and those that give primacy to action. Learning as participation is ‘caught in the middle’ and takes place through engagement in actions and interactions in social contexts. Learning reproduces and transforms the social structure in which it takes place (Wenger 1998).

The horizontal axis mediates between the poles of the vertical axis. Theories of practice and identity constitute forms of social and historical continuities and discontinuities. Again, learning is ‘caught in the middle’. “ It is the vehicle for the evolution of practices and the inclusion of newcomers while also (and through the same process) the vehicle for the development and transformation of identities” (ibid.:13).

While these two axes set the main backdrop for the theory, Wenger proceeds to refine the model by including a further set of intermediary axes.

Figure 3.3: Refined intersection of intellectual traditions



One diagonal locates social collectivities between social structure and practice, and individual subjectivity between identity and situated experience. The axis connecting subjectivity and collectivity highlights the inseparable duality of the social and the individual. The second diagonal axis places power between social structure and identity, and meaning between practice and experience, and connects issues of power with issues of production of meaning (Wenger 1998).

3.3.2.1 The concept of practice

People are constantly engaged in the pursuit of various enterprises. In defining and pursuing these enterprises, people interact with each other and the world and constantly refine their interactions with each other. This according to Wenger is how people 'learn' (Wenger 1998). This sustained collective learning results in practices that become the 'property' of a kind of community created over time, by the

“sustained pursuit of a shared enterprise” (ibid.:45). These kinds of communities are called communities of practice.

- ↳ Working with others who share the same conditions is a central factor in defining the enterprise one engages with. A community of practice:
 1. Provides resolutions to institutionally generated conflicts
 2. Supports a communal memory that allows individuals to do their work without needing to know everything
 3. Helps newcomers join the community by participating in its practice
 4. Generates specific perspectives and terms to enable accomplishing what needs to be done
 5. Makes the job habitable by creating an atmosphere in which the monotonous and meaningless aspects of the job are woven into the rituals, customs, stories, events, dramas and rhythms of community life (Wenger 1998:46).

Individuals “... act as resources to each other, exchanging information, making sense of situations, sharing new tricks and new ideas, ...” (ibid.:47). A practice is what people (in this research study, teachers in TEMS) have developed in order to be able to do their jobs and have a satisfying experience at work. The concept practice entails *doing* in a historical and social context that gives structure and meaning to what is done. Practice is essentially a *social* practice. It includes both the explicit and the tacit and

... encompasses the language, tools, documents, images, symbols, well-defined roles, specified criteria, codified procedures, regulations and contracts that various practices make explicit for a variety of purposes (Wenger 1998:47).

Implicit relations and tacit conventions are important signs of communities of practice. The tacit, taken for granted or common sense can be worked out through mutual engagement in communities of practice.

↳ The concept practice and the process of engaging in practice always “involves the whole person, both knowing and acting at once” (ibid.:48). Communities of practice include the theoretical, and the practical, one’s ideals and the reality, and both talking, doing and

reflecting. The ability of a community of practice to be reflective will influence the kind of learning that the community will engage in. In pursuing our different enterprises, our practice will always involve "... the same kind of embodied, delicate, active, social, negotiated, complex process of participation" (ibid.:49).

3.3.2.2 Practice as Meaning

- Practice is a process by which we can experience the world and our engagement with it as meaningful. It is about meaning as an experience of daily life. Meaning is located in a process called the *negotiation of meaning*. Our engagement in practice may have patterns, but it is the production of patterns anew that gives rise to an experience of meaning (Wenger 1998). Human engagement in the world is first and foremost a process of negotiating meaning. The negotiation of meaning may involve language but is not limited to it. Negotiation entails a continuous interaction, of gradual achievement, and of give and take. "The negotiation of meaning is a productive process, but negotiating meaning is not constructing it from scratch" (ibid.:54). Meaning is a product of its negotiation and therefore exists in the process of negotiation.

The negotiation of meaning involves the interaction of two constituent processes, which Wenger refers to as *participation* and *reification*. Participation and reification form a duality that is fundamental to the human experience and thus to the nature of practice (Wenger 1998:52). Participation and reification refer to a duality that is fundamental to the negotiation of meaning. *Participation* refers to a complex process of doing, talking, thinking, feeling and belonging. It involves our whole person, including our bodies, minds, emotions and social relations. Participation is characterized by the possibility of mutual recognition, our mutual ability to negotiate meaning. It is a source of identity. By recognising the mutuality of our participation, we become a part of each other. Participation involves all kinds of relationships such as conflictual and harmonious relationships. Participation in social communities shapes our experience and it also shapes those communities. It is more than just direct engagement in specific activities with specific people. It is a part of our identity that influences the negotiation of meaning

in different contexts. This perspective on participation views our engagement with the worlds as *social* (ibid.).

Reification refers to a process where we project our meanings into the world and then we perceive them as existing in the world, as having a reality of their own. Whereas in participation we recognise ourselves in each other, in reification, we project ourselves onto the world and we attribute to our meanings, an independent existence. Reification is the "...process of giving form to our experience by producing objects that congeal this experience into 'thingness'" (Wenger 1998.:58). We create points of focus around which the negotiation of meaning becomes organized. A certain understanding is given form, which becomes a focus for the negotiation of meaning. A community of practice produces "abstractions, tools, symbols, stories, terms, and concepts that reify something of that practice in a congealed form" (ibid.:59).

Reification shapes our experience in very distinct ways, since having a 'tool' to perform an activity certainly will change the nature of the activity. Wenger (ibid.:60) clarifies the following points about reification as follows:

- Reification can refer both to a process and its product. If meaning exists only in its negotiation then, at the level of meaning, the process and the product are not distinct.
- In an institutional environment, a large portion of the reification involved in work practices comes from outside the community of workers. Reification is then appropriated into a local process to become meaningful.
- Reification can take a variety of forms.

The process of reification can be 'double-edged'. Forms can take a life of their own, beyond their context of origin. Their meaningfulness can be positively expanded or completely lost. "Reification as a constituent of meaning is always incomplete, ongoing, potentially enriching, and potentially misleading". The thought of assigning the status of

object to something that in reality is not an object conveys a sense of mistaken “solidity, of projected concreteness” (Wenger 1998:62).

Participation and reification are both distinct and complementary. They cannot be considered in isolation but come as a pair. They form a unity in their duality. To understand one, it is necessary to understand the other and to enable one it is necessary to enable the other. Processes of participation and reification can be woven so tightly that the distinction between them seems almost blurred. The negotiation of meaning moulds participation and reification so effortlessly that meaning seems to have its own “unitary, self-contained existence” (ibid.:63).

An advantage of viewing the negotiation of meaning as a being a dual process of participation and reification, is that it could lead to trade-offs involved in the complementarity of participation and reification. The question is, how is the production of meaning distributed. What is reified and what is left to participation and reification should be in proportions that enable them to complement each other and compensate for each other’s shortcomings. The continuity of meaning is likely to become a problem in practice if too much reliance is placed on one at the expense of the other. Wenger notes:

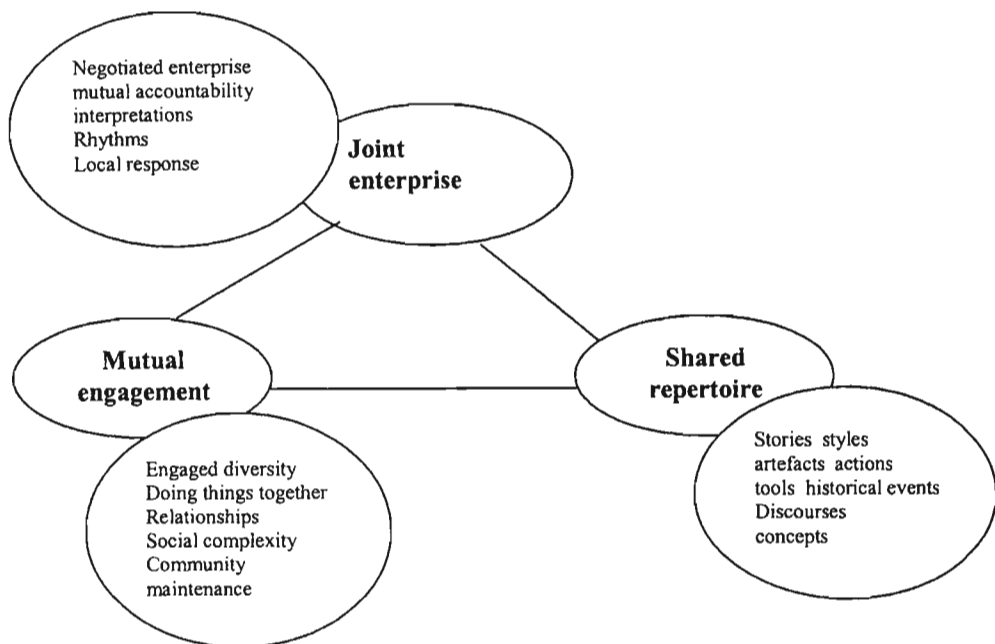
If participation prevails – if most of what matters is left unreified – then there may not be enough material to anchor the specificities of coordination and to cover diverging assumptions. If reification prevails – if everything is reified, but with little opportunity for shared experience and interactive negotiation – then there may not be enough overlap in participation to recover a coordinated, relevant, or generative meaning (1998:65).

Through the negotiation of meaning, it is the interplay of participation and reification that makes people and things what they are.

3.3.2.3 Community

To associate practice and community, Wenger (1998:72) describes three dimensions of the relation by which practice is the source of coherence of a community. These dimensions are what he terms 'mutual engagement', 'a joint enterprise' and 'a shared experience'. These are diagrammatically represented as follows: (ibid.:73)

Figure 3.4: Three dimensions of community coherence



3.3.2.3.1 How is 'mutual engagement' a characteristic of practice as a source of community coherence?

Practice does not exist in abstract. Practice comes about when people are engaged in actions whose meanings they negotiate with one another. It resides in a community of people and the relations of mutual engagement by which they do whatever they do. Hence membership of a community is a matter of mutual engagement, and it is this mutual engagement that defines the community. Wenger warns that a community of

practice is not just an aggregate of people and is not a synonym for an arbitrary group, team or network (Wenger 1998).

An essential component of any practice is essentially what it takes to cohere to make mutual engagement possible. Inclusion in what matters is a prerequisite for being engaged in a community's practice. The kind of coherence that transforms mutual engagement into a community of practice requires concerted effort. Wenger (1998) describes the concept 'community maintenance' as being an 'intrinsic part' of any practice. However, because it may be much less visible than the more instrumental aspects of that practice, it can be easily undervalued or not recognised (ibid.). Proactive steps have to be taken to ensure mutual engagement is transformed into a community of practice (ibid.).

Mutual engagement in a community of practice does not entail a homogenous grouping; in fact, the mutual engagement in a practice is more productive when there is diversity in the grouping. Not only are members of a community of practice different, but also working together creates differences as well as similarities. In as much as they develop shared ways of doing things, members also distinguish themselves or gain a reputation. Each participant in a community of practice finds a unique place and gains a unique identity, which is both further integrated and further defined in the course of engagement in the community of practice. "Homogeneity is neither a requirement for, nor the result of, the development of a community of practice" (Wenger 1998:76). Mutual engagement involves not merely the competence of an individual participant but the competence of all participants. Mutual engagement draws on what participants do and what they know as well as their ability to connect meaningfully to what they do not do and do not know, that is, the ability to connect meaningfully to the contributions and knowledge of others. It is therefore important to know how to give and receive help. Developing a shared practice depends on mutual engagement.

Wenger emphasises (1998) that although the term 'community' usually has positive connotations of peaceful coexistence, mutual support or interpersonal allegiance, these are not assumed, though they may exist in certain cases. Communities of practice can be characterised by conflicts, disagreements and tensions among participants. These are 'normal' forms of participation. A shared practice thus connects participants to each other in ways that are diverse and complex.

3.3.2.3.2 How is 'joint enterprise' a characteristic of practice as a source of community coherence?

The negotiation of a joint enterprise that keeps a keeps a community of practice together is based on three premises (Wenger 1998). Firstly, the enterprise is a result of a collective process of negotiation that reflects the full complexity of mutual engagement; secondly, the enterprise is defined by the participants in the very process of pursuing the enterprise; and thirdly, the enterprise creates among participants relations of mutual accountability that become an integral part of the practice.

The enterprises reflected in practice are as complex as the participants.¹ This enterprise therefore includes the instrumental, personal and interpersonal aspects of participants' lives. A community of practice reflects its attempt to create a context in which participants can proceed with their working lives. A participant's working life includes making money, being an adult, becoming proficient at one's job, feeling good, dealing with boredom, keeping one's job and thinking about the future.

Communities of practice are 'not self-contained' entities, but develop in larger historical, social, and institutional contexts, with specific resources and constraints (Wenger 1998). Although the practice of the community may be influenced by conditions outside the control of its members (time, resources etc) the practice is still produced by the participants within the resources and constraints of their situations and is therefore their response to their conditions. Participants are, however, certainly located within a broader

¹ In the TEMS project, the enterprise would be personal and professional development.

system or institution and the influence of such institutions can indeed be pervasive. A community of practice can respond to the conditions imposed by the institution in ways that are not determined by the institution. To do what they are expected to do, participants produce a practice with 'inventiveness that is all theirs' (Wenger 1998:79). Their inventive resourcefulness applies equally to what the institution probably wants and to what it probably does not want.

Because participants develop and produce a practice to deal with what they understand to be their enterprise, their practice as it unfolds belongs to their community in a fundamental sense. So although conditions, resources and demands may influence a community of practice, it is the participants who *negotiate* these constraints and shape the practice.

(N)egotiating a joint enterprise gives rise to relations of mutual accountability" among the participants. "These relations of accountability include what matters ... what is important ... what to do ... what to pay attention to ... when artefacts are good enough and when they need refinement" (Wenger 1998:81).

Information and resources are treated as something to be shared. Understanding and taking responsibility for what makes life difficult for others is enforced among participants. Participants understand that making their work life bearable is part of their joint enterprise, a phenomenon described by Wenger as a "communal regime of mutual accountability" (ibid.:81).

In a community of practice, aspects of accountability can be reified in terms of rules, policies, standards and goals. Those aspects that cannot be reified are just as important. These could include developing specialised sensitivities, an aesthetic sense, and refined perceptions that influence a participant's judgement of the quality of something produced or an action performed. The sharing of these aspects in a community of practice allows participants to negotiate the appropriateness of what they do. The regime of accountability becomes an integral and pervasive part of the community of practice; because of its very nature it may not be something that anyone can articulate very readily (Wenger 1998).

Wenger explains that:

Defining a joint enterprise is a process, not a static agreement. It produces relations of accountability that are not just fixed constraints or norms. These relations are manifested not as conformity but as the ability to negotiate actions as accountable to the enterprise (Wenger 1998:82).

3.3.2.3.3 How is ‘shared repertoire’ a characteristic of practice as a source of community coherence?

Over time, the joint pursuit of an enterprise by its participants creates resources for negotiating meaning. The elements of a shared repertoire of a community of practice can be very heterogeneous and could include “routines, words, tools, ways of doing things, stories, gestures, symbols” that the community has developed over time and which have become part of its practice (Wenger 1998:83). It combines both reificative and participative elements and includes discourse by which members create meaningful statements about the world. The term ‘repertoire’ emphasises both the rehearsed character of the shared resources and its availability for further engagement in practice. As a resource for the negotiation of meaning, a repertoire of a community of practice reflects a history of mutual engagement. “Histories of interpretation create shared points of reference but do not impose meaning” (ibid.:84).

While communities of practice provide a privileged context for the negotiation of meaning, Wenger (1998) warns about romanticizing them. Shared practice does not itself imply harmony or collaboration, in fact a community of practice may not necessarily be an emancipatory force. He cautions

Communities of practice are not intrinsically beneficial or harmful. They are not privileged in terms of positive or negative effects. Yet they are a force to be reckoned with, for better or for worse. As a locus of engagement in action, interpersonal relations, shared knowledge, and negotiations of enterprises, such communities hold the keys to real transformation – the kind that has real effect on people’s lives (ibid.:85).

3.3.2.4 Learning

Practice has to be understood in its 'temporal' dimension (Wenger 1998). Some communities of practice could exist over many years while others could be short-lived but are "intense enough to generate indigenous practice and transform the identities of those involved" (ibid.:86). Such communities arise in the face of crises where people come together to deal with a situation. The development of practice entails a matter of sustaining enough mutual engagement to share some significant learning.

"(C)ommunities of practice can (therefore) be thought of as shared histories of learning" (ibid.). Practices evolve as shared histories of learning, an ongoing process of participation and reification intertwined over time. Forms of participation and reification continually converge and diverge. They come into contact and affect each other in moments of negotiation of meaning.

Participants, in the process of sustaining a practice, become invested in what they do as well as in each other and their shared history. Their identities become "anchored in each other" (Wenger 1998:89) and what they do together. While a participant may not find it easy to become a radically new person in a community of practice, it is also not easy for a participant to transform herself without the support of the community.

Because a community of practice is a system of interrelated forms of participation, discontinuities are not an uncommon phenomenon. When newcomers join a community of practice, discontinuities may spread through many levels and relations shift in a 'cascading process'. "Relative new-comers become relative old-timers" (Wenger 1998:94). New identities are forged from new perspectives having either an unsettling or an encouraging effect on participants. This process could reveal progress, which may have remained, previously unnoticed. Participants (old-timers) suddenly see all that they have learned because they are now in a position to help other participants (new-comers). These shifts also create new demands as participants (old-timers) are suddenly being looked up to and are expected to know more than they are sure they do.

If practices are histories of mutual engagement, negotiation of an enterprise and the development of a shared repertoire, then learning in practice involves the processes of evolving forms of mutual engagement. This involves exploring how to engage, what helps, and what obstructs, developing mutual relationships, defining identities and establishing who is good at what (Wenger 1998). Learning in practice also entails participants' understanding and reviewing their enterprise, and developing their repertoire, styles and discourses. This means the renegotiation of meaning, producing or adopting tools, recalling events, inventing new terms and redefining or abandoning old ones, and the telling and retelling of stories. This kind of learning is not just a mental process (though such processes are involved), but that learning has to do with participants' development of their practice and their ability to negotiate meaning (Wenger 1998:96). It is not merely the acquisition of memories, habits and skills, but the formation of an identity.

The existence of a community of practice does not depend on fixed membership. Participants may move in and out the community. An 'essential' aspect of any community of practice is the arrival of new participants, who are integrated into the community, engage in its practice and then perpetuate the practice. This aspect of practice is understood as learning (Wenger 1998).

3.3.2.5 Exploring the concept 'brokering' as used by Wenger

Communities of practice cannot be considered in isolation from the rest of the world. Participants' histories are not just 'internal', but are histories of articulation with the rest of the world and involve engagement with external relations Wenger (1998).

The concept 'brokering' arises when participants with multi-membership (of different communities), transfer elements of one practice into another (ibid.). Brokering is a common feature of the relation of a community of practice with the outside. Brokers make new connections across communities of practice; facilitate co-ordination and open

new possibilities for meaning. Brokering is a complex process of translation, coordination, and alignment between different perspectives. It requires the ability to link practices by facilitating transactions between them, and to cause learning by introducing into a practice, elements of another. In achieving this, brokering provides a participative connection because brokers use their experience of multi-membership and the possibility of negotiation. Brokering often entails ambivalent relations of multi-membership that "...requires an ability to manage carefully the coexistence of membership and non-membership, yielding enough distance to bring a different perspective, but also enough legitimacy to be listened to" (Wenger 1998:110).

Communities of practice can connect with the rest of the world by means of providing peripheral experiences (Wenger 1998:117). This refers to a situation where newcomers who may not want to be fully-fledged members, can be offered various forms of casual, but legitimate access to the practice without subjecting them to the demands of full membership. Having this kind of multiple level of involvement is an important feature of communities of practice as it presents opportunities for learning both for outsiders and for communities. In a community of practice, mutual engagement can become 'progressively looser' at the periphery, with layers ranging from "core membership to extreme peripherality" (ibid.:118). Communities of practice offer multiple and diverse opportunities for learning where different participants contribute and benefit differently, depending on their relations to the endeavour and the community.

Communities of practice can be found spread throughout and across institutions. Wenger notes that "Communities of practice that bridge institutional boundaries are often critical to getting things done in the context of and sometimes in spite of bureaucratic rigidities" (Wenger 1998:119).

3.3.2.6 How does Wenger use the concept 'locality'?

Calling "every imaginable social configuration a community of practice would render the concept meaningless. On the other hand, encumbering the concept with too restrictive a definition will only make it less useful" (Wenger 1998:122). It is more important to explore the perspective that underlies the concept 'practice' and to develop a framework by which to examine to what degree, in which ways, and to what purpose it is useful to view a social configuration as a community of practice.

Because a community of practice need not be reified as such in the discourse of its participants, indicators that a community of practice has developed include:

1. sustained mutual relationships – harmonious or conflictual
2. shared ways of engaging in doing things together
3. the rapid flow of information and the propagation of innovation
4. absence of introductory preambles, as if conversations and interactions were merely the continuation of an ongoing process.
5. very quick setup of a problem to be involved
6. substantial overlap in participants' descriptions of who belongs
7. knowing what others know, what they can do, and how they can contribute to an enterprise
8. mutually defining identities
9. the ability to assess the appropriateness of actions and products
10. specific tools, representations and artefacts
11. local lore, shared stories, inside jokes, knowing laughter
12. jargon and shortcuts to communication as well as ease of producing new ones
13. certain styles recognised as displaying membership
14. a shared discourse reflecting a certain perspective on the world (Wenger 1998:125).

These characteristics indicate that the three dimensions of a community of practice; namely; a community of mutual engagement, a negotiated enterprise, a repertoire of negotiable resources accumulated over time are “present to a substantial degree” (ibid.:126).

It is not necessary that all participants interact intensely with everyone else or know each other well, but the less the interaction, the less likely that the grouping can be deemed a community of practice. Also, it is not necessary that everything participants do be accountable to a joint enterprise, or that everyone be able to assess everyone’s actions or behaviour, but the less this occurs, the more questionable it is that there is a substantial endeavour that brings the group together (ibid.).

It is also not necessary that ‘repertoire’ be completely locally produced. A substantial part of the repertoire of most communities of practice is often imported, and adapted for the community’s use, but, if local production of negotiable resources is scant or if no local artefacts are being produced, then it brings into question whether the people involved are really doing something or whether there is in fact sustained mutual engagement.

3.3.2.7 The concept ‘competence’ as explained by Wenger

Competence is more than the ability to perform certain actions, or the possession of certain pieces of information. Competent membership includes all three dimensions of a community of practice, namely, mutuality of engagement, accountability to the enterprise, and negotiability of the repertoire (Wenger 1998).

It is by its very practice that a community establishes what it is to be a competent participant. “(A) community of practice acts as a locally negotiated regime of competence” (ibid.:137). ‘Knowing’, then can be defined as what would be recognised as competent participation in the practice. Discovering or knowing something new can be deemed competent participation in the practice. Learning is more than a matter of competence, but also a matter of experience of meaning. Learning in practice is only

possible when experience of meaning interacts with a 'regime of competence'. Both experience and competence are constituents of learning. They do not however, determine each other or they may indeed even be out of sync with each other.

Competence may drive experience (Wenger 1998). Sometimes a participant has to align herself with a regime of competence. For participants to achieve the competence defined by a community, they transform their experience until it fits within the regime.

Experience may drive competence. If one of the participants had an experience that fell out of the regime of competence of a community, as a way of asserting her membership, she may attempt to change the community's regime of competence so that it includes her experience. To achieve this she may negotiate its meaning with the community of practice, by inviting others to participate in her experience and may attempt to reify it for them. "If they have enough legitimacy, as members to be successful, they will have changed the regime of competence – created new knowledge in the process" (ibid.:138)

Wenger (ibid.:139) states, "This two-way interaction of experience and competence is crucial to the evolution of practice. In it lies the potential for the transformation of both experience and competence, and thus for learning individually and collectively".

3.3.2.8 The concept 'identity' as espoused by Wenger

The issue of identity is an integral part of a social theory and as such cannot be separated from issues of practice, community and meaning. A participant, in building an identity, has to negotiate the meanings of her experience of membership in social community. In understanding the concept identity, one should avoid a simplistic individual-social dichotomy (Wenger 1998). Using the concept identity in social terms, does not deny individuality, but individuality is seen as something that is part of the practices of specific communities. The focus should be on how the individual and the community mutually constitute their identities. Each act of participation and reification reflects the mutual constitution (of identities) between individuals and collectives. There is a deep connection between identity and practice. (ibid.). In developing a practice, members

engage with one another and acknowledge each other as participants. Practice therefore entails the negotiation of ways of being a person in that context.

The formation of a community of practice involves the negotiation of identities. An identity is the 'layering of events' of participation and reification in which a participant's experience and its social interpretation inform each other (ibid.). These layers build upon each other to produce a participant's identity. Identity exists in the constant work of negotiating the self through the interplay of participation and reification.

Membership of a community of practice translates into an identity as a form of competence. In a community of practice, participants learn certain ways of engagement with each other. They develop certain expectations of how to interact and how to work together. Participants become whom they are by being able to play a part in the relations of engagement that constitute the community. Identity emerges as a form of individuality defined in respect to a community. Identity as a learning process is a "trajectory in time that incorporates both past and future into the meaning of the present" (Wenger 1998:163).

3.3.3 Cultivating Communities of Practice

Wenger's most recent published work on communities of practice was a collaborative effort with McDermott and Snyder, entitled "*Cultivating Communities of Practice: A Guide to Managing Knowledge*" (Wenger, Snyder and McDermott, 2002). In this work, Wenger, McDermott and Snyder extend Wenger's theory as presented above. They specifically apply Wenger's theory of learning in a community of practice to real world business situations, by drawing on examples from their consulting work. The book, however, is aimed at multinational corporations and makes constant reference to communities of practice that exist in large corporations like Shell and the Chrysler Corporation.

The focus of the theory is on the components that are necessary to make a community function in the work environment, especially in what they term “the knowledge economy” (Wenger et al, 2002:6). They argue that communities of practice are an effective way of managing knowledge and explain the importance and necessity of this management of knowledge in the modern rapidly changing global economy. Knowledge management needs to become more systematic and deliberate. Knowledge has a collective nature and involves every person contributing a perspective to a problem. A community of practice allows for the connection of isolated pockets of expertise across an organisation

The concept of ‘cultivating’ communities of practice is used by referring to the analogy of a plant that does its own growing irrespective of how its germination had occurred. Just as it is not possible to pull the components (stem and leaves) of a plant to make it grow faster, it is also not possible to force a community of practice to grow. They note however, that much can be done to encourage the healthy growth of a community of practice. While some communities of practice grow spontaneously, others require careful seeding. It is important to value the learning that takes place in communities of practice, by making time and resources available for their work, encouraging participation and removing barriers (Wenger et al 2002).

What follows is a list of some of the benefits of communities of practice to its members as suggested by Wenger et al (more or less verbatim)(Wenger et al 2002:16).

They:

- Help with challenges
- Provide a forum for expanding skills and access to expertise
- Develop abilities to contribute to a team and keeping abreast of the field
- Develop confidence in approach to problems
- Provide a sense of belonging and enhances professional reputations
- Allow for more meaningful participation
- Allow for increased marketability and employability
- Develop a strong sense of professional identity

A structural model of a community of practice is proposed. It suggests that a community of practice is a combination of three fundamental elements, namely, a domain, a community and practice (Wenger et al 2002).

3.3.3.1 Domain

The concept domain is an extension of what Wenger previously referred to as 'joint enterprise' (Wenger 1998). Domain refers to the core business or set of issues or common ground that creates the identity of the community of practice. It is what inspires members to participate and contribute to the community of practice by guiding their learning and giving meaning to their actions. Members decide what is worth sharing and which activities to pursue. They become accountable to a body of knowledge and to the development of a practice. Members decide what matters. The domain therefore guides the way they organize their knowledge. "What creates ... common ground, the domain of a community is its *raison d'être*" (Wenger et al 2002:31).

3.3.3.2 Community

Here, Wenger's concept of 'mutual engagement' (Wenger 1998) is presented as the concept 'community'. It is described as creating the 'social fabric of learning' (Wenger et al 2002:28) and refers to regular interactions and valuable relations that are based on mutual respect and trust. Learning is a matter of belonging. Communities of practice can take on various sizes, but requires a 'critical mass' of people (ibid.). Participation is voluntary. The success of a community of practice depends on the energy that the community generates and distributed internal leadership. Recognized experts help legitimise the community's existence but may not necessarily be the one's who bring the community together. Every community develops a unique atmosphere that could either be intense, or laid back, formal or informal and either hierarchical or democratic. The focus however is on collective inquiry (Wenger et al 2002).

3.3.3.3 Practice

In extending on his original concept of a 'shared repertoire' (Wenger 1998), the concept 'practice' is presented as the third component of a community of practice. Practice is described as a "set of frameworks, ideas, tools, information, styles, language, stories, and documents that community members share" (Wenger et al 2002:29). While the domain describes the topic the community concentrates on, practice refers to the specific knowledge that the community develops, shares and maintains.

Practice refers to

...socially defined ways of doing things in a specific domain: a set of common approaches and shared standards that create a basis for action, communication, problem solving, performance and accountability. These communal resources include a variety of knowledge types: cases and stories, theories, rules, frameworks, models,...(and) best practice ... (Wenger et al 2002:39)

When the three elements (domain, community and practice) function well together, it makes for a healthy community. It is important that all three elements develop in parallel and that none are neglected as this could prove to be counterproductive (Wenger et al 2002).

As a conclusion to this section, I explicate the aspects of Wenger's work that had influenced the TEMS project. I firstly focus on aspects that informed the teacher development project. Secondly, I highlight aspects that informed the data collection and data analysis.

The TEMS teacher development project was conceived on the assumption that teachers' participation in the community of practice would enhance teacher learning. This is a central feature of Wenger's work as it enabled the reconceptualising of teacher learning in terms of creating diverse opportunities for participation and hence diverse opportunities for learning. Wenger's notions of different levels of membership provided a framework for enabling participation by members who made up the core and members

who were regarded as peripheral. A homogenous group of teachers was not a prerequisite for establishing a learning community. The idea that the existence of a community of practice did not depend on fixed membership was useful in understanding the evolving structure of the learning community. The issue of valuing the work of community building where individuals act as resources to the community is an important assertion made by Wenger that helped shape the teacher development programme. The idea that an 'imported repertoire' can be introduced into a community where the repertoire was non-existent was particularly useful in the establishment of the teacher development project that took root in the fledgling EMS teachers group. Wenger's conceptualisation of communities of practice that could bridge institutional boundaries was especially useful in that it sanctioned the establishment of the teacher development programme across schools, thus drawing on teachers from several schools in the selected geographical area. The concept of 'community maintenance' was crucial in recognizing factors that contributed to sustaining the teacher development programme.

With regard to data collection and analysis, Wenger's theory provided useful conceptual tools that guided and focussed data collection and its subsequent analysis. Wenger's conceptualisation of learning as constituting four elements, namely, meaning, practice, identity and community presented distinct conceptual tools that helped shape the data collection instruments and the analysis of the data that was generated. Key conceptual tools that were also used included that of 'brokering', 'boundary', 'community maintenance', 'community coherence', 'mutual engagement', 'shared repertoire', 'joint enterprise', and 'participation and reification'. The conception that communities of practice should not be considered in isolation, but that participants' (teachers') trajectories, biographies and individual teaching contexts were crucial to understanding teacher learning, certainly influenced data collection and analysis in this research project. Finally, the TEMS project was used to reflect on Wenger's theory and its applicability to a *teacher* learning community given that Wenger downplays pedagogy and emphasises learning, a departure from the conventional teacher/learner dyad.

3.4 HOW I DEVELOPED MY PERSPECTIVE OR 'THEORY' OF TEACHER LEARNING AND ITS INFLUENCE ON THE TEMS MODEL FOR TEACHER DEVELOPMENT/LEARNING

I completed my undergraduate teaching degree in the late 1980s. This was in the midst of the apartheid era at a university previously designated for South Africans of Indian origin. Although Christian Nationalist Education (CNE) and Fundamental Paedagogics was being contested as the dominant ideology, strong elements of the doctrine still pervaded the teacher education curriculum at the time, with courses like Didactics still part of the curriculum. Distinct behaviourist notions of teaching and learning underpinned the curriculum.

My exposure to different perspectives on teaching and learning began with my postgraduate study (Honours and Masters in Education). I was also strongly influenced by my political activist roots, teacher activism in particular and socio-constructivist literature on teaching and learning. The work of situative theorists like Lave (1988), Lave and Wenger (1991), Wenger (1998) and Wenger, McDermott and Snyder (2002) in particular, has influenced the model for teacher development in the TEMS project. Other researchers in the field of 'learning communities' that have influenced my thinking include Grossman et al (2001), Putman and Borko (2000), Philips (2003), McLaughlin and Talbert (2001) and Gallucci (2003). (A detailed review of research on learning communities is contained in the literature review in Chapter Two).

In deciding on a model for teacher development, I was careful to accord teachers an active role in their own learning. I hoped that teacher leaders would emerge during the process. Local teacher leaders were especially important in enabling this teacher learning programme. I was hoping to identify lead teachers who would be situated in teaching practice while also having an understanding of the need to help other teachers translate the new curriculum ideas into practice. They would be viewed as central agents in the education of their peers. Teachers as learners would be actively involved in conversations about teaching and identifying learners' needs.

Ideally I would have wanted teachers to have time to watch one another teach and to have conversations about their teaching. I expected that conversations among teachers would provide opportunities to grapple with the meaning of the new curriculum (with regard to EMS and EMS teaching) and to appreciate what the new EMS curriculum meant for practice.

I envisioned that in the group processes, learning would focus not only on understanding new EMS content ideas but also on translating these ideas into practice and figuring out how to manage the practical challenges that may emerge in the process. In participating in discussions about practice, teachers would be active in their own learning.

I saw the curriculum for teacher learning as involving an array of 'artefacts' that included the new Revised National Curriculum Statement, materials that teachers used and developed, teachers' practice, materials that I had developed and provided, as well as the teacher development workshop sessions. The curriculum for teacher learning was designed to support teachers' learning about Economic and Management Sciences and their learning about how these ideas could be translated into practice.

Teachers' daily practice and their efforts to engage with teaching EMS was an important component of the curriculum for teacher learning in the TEMS project. Learning would involve teachers participating in inquiry and reflection about their practice and in solving pedagogical problems that were meaningful to teachers as learners. Such conversations would afford opportunities for teachers to work together to 'figure out' what practising EMS teaching might involve. They would also be afforded opportunities to gain insights from others on the practical problems of putting EMS teaching ideas into practice and to construct solutions to these problems together.

In adopting this perspective, I tried to ensure that knowledge was not a commodity, which I as the university academic (EMS expert) brought to the project. Instead, knowledge was in part constructed through the reflection and thinking enabled by the

interaction among peers about their practice and guided by questions posed by myself and fellow participants. From a situative perspective, the curriculum for teacher learning would support ongoing inquiry about ideas presented in the new Revised National Curriculum Statement and their implications for day-to-day EMS practice. It included not only subject matter knowledge and pedagogical content knowledge, but also practical knowledge to translate EMS ideas into practice. By adopting this (situative) perspective on teacher learning, my implicit assumption was that the curriculum for teacher learning would be stretched over an array of artefacts and events, a position supported by Rogoff (1990). It was envisioned that a combination of these artefacts and events would form an integrated curriculum for teacher learning. The curriculum for teacher learning would then be situated across the new Revised National Curriculum Statement with special reference to EMS, classroom curricula materials, and teachers' attempts to implement EMS practice.

Grossman et al (2001) refer to what they term the *essential tension* of teacher community. There exists a tension between improving professional practice by improving pedagogic skills and the *continuing intellectual* development in the subject matter of the school curriculum. They state that the latter is a less familiar aspect and assumes that "teachers are lifelong students of their subjects..." (ibid. 2001:951). Teachers must continue to increase their knowledge and remain updated with regard to changes in their disciplines: "These two aspects of teacher development - one that focuses teachers' attention on the improvement of student learning, the other focused on the teacher as student of subject matter- do not always mix harmoniously. Often they do not mix at all" (Grossman et al 2001:952). These two approaches are essentially a contrast between the promise of direct applicability and the long-term goal of personal intellectual renewal. Grossman et al suggest that "the challenge in creating... community is to heed both aims simultaneously: to maintain a focus on students while creating structures for teachers to engage as learners with the subject matters they teach" (ibid.:952). These two critical foci of teacher learning must be carefully considered if there is to be any successful attempt to create and sustain 'teacher intellectual community'. Teacher community must be equally concerned with student learning and with teacher learning. They are at the *essence* of teaching, and

they represent key ingredients in successful professional development. Grossman et al (2001) note that while these two foci can be at odds with each other, they can be held in a productive tension.

In the TEMS group, as will be seen presently, it was evident that not all teachers were equally interested in both foci. While some were interested in developing curriculum, others were there mainly to acquire subject matter knowledge. In the planning of the TEMS project, an attempt was made to weave both these foci into the agenda. However, the main thrust of the project was to develop subject matter knowledge in the EMS learning area.

I envisaged that the motivation for teachers to learn resided in teachers' developing and sustaining identities as knowers and as learners in the TEMS project. The motivation for teachers to learn centred mainly but not exclusively on developing and sustaining teachers' identities as learners in the TEMS community of practice. It was important to for me to develop a 'critical mass' (Spillane 2000) of EMS teacher leaders who would be able to convince other EMS teachers about the new EMS curriculum, its place in the school curriculum, and the importance of EMS knowledge for their pupils. I envisaged that peer encouragement would motivate participants to engage with meaningful EMS teaching.

I also hoped that teachers, trying out new ideas in their classrooms, with the support of their colleagues (addressing implementation difficulties) and observing the response of their own pupils would be another really important motivating factor and an incentive for teacher learning, an idea supported by McLaughlin and Talbert (2001). In becoming a part of the TEMS project, teachers would learn in a supportive community of practice and that it would translate into teachers creating supportive learning communities within their classrooms, and that they would be motivated by their own pupils' learning of the EMS learning area.

Teacher learning would be enabled through teacher reflection on existing knowledge, experience, and practice. It would involve challenging teachers' current thinking and guiding them towards new understandings. Learning would involve teachers in reconstructing their existing knowledge rather than the passive assimilation and memorization of new knowledge. I hoped to use teachers' prior knowledge and practice as a central aspect in creating learning opportunities for this group of teachers. It would involve using teachers' existing conceptions and understandings to challenge and engage teachers' thinking and their practice.

The curriculum for teacher learning was developed from teachers' needs, as expressed by teachers and as observed by me in conjunction with the proposals in the new Revised National Curriculum Statement for EMS.

3.5 APPLYING WENGER'S SOCIAL PRACTICE THEORY OF LEARNING: WHAT ARE THE CHALLENGES?

Although the theory significantly informed both the TEMS programme and the present research study, it does have some limitations. The purpose of this section is to identify such weaknesses in a South African context and to indicate how such weaknesses were addressed in this study.

The model does not pay attention to wider social and economic inequalities within which participants in a community of practice are embedded. As such it does not offer insights into understanding inequalities and disadvantage that may be peculiar to individuals within a community. These phenomena are particularly overt in a context like South Africa where issues of ethnicity, social class and gender are likely to influence the structuring of learning opportunities in learning a community. Wenger does not explore the barriers to learning posed by tensions originating from structural unevenness of power in communities of practice and how such unevenness can contribute to exclusion. He does not offer a detailed framework to explain ways in which communities could disempower members and how community tensions can be understood. The challenge

that the Wenger framework presents is to incorporate the broader issues of social and economic inequalities that may exist beyond the actual site of learning, fully into the analysis of learning. This is particularly significant in a South African context characterised by widespread social and economic inequalities.

The model does not offer insights for explaining discontinuities in learning that stem from unequal access to learning. Learning opportunities may depend on an individual's status within a community. In learning communities more powerful members are able to gain greater access to learning opportunities. The model does not acknowledge that the development of the individual needs to be viewed as a negotiated process that is subjected to both facilitative and oppressive forces that may exist within and beyond the community of practice.

Wenger's model of a community of practice presents an account of learning based on the formation of a group-referenced identity. For Wenger, the group represents the primary unit of analysis, where learning becomes inseparable from forms of social engagement. Exploring an individual member's learning trajectory is difficult using Wenger's model, as the model does not provide adequate tools for such analysis. This is significant, as a key barrier to learning is in fact discontinuity in the learning trajectory. In a teacher learning community, assessing the learning of an individual teacher presents a challenge, as Wenger's model is silent on this issue. Wenger fails to deal adequately with teachers as individuals despite the explicit focus on identity. Understanding individual dispositions and personalities and how they play themselves out in a learning community are ignored in the model. The social approach to learning presented by Wenger is at the expense of an analysis of the way individual members of a community of practice learn. While Wenger acknowledges the reflexive transformation of individuals in a community of practice, he does not offer a framework to explore how this occurs. The challenge then is to theorise a model that integrates individual members' learning in a community of practice.

There is an assumption that newcomers are somehow drawn ‘naturally’ into the life of the community and eventually embrace the curriculum developed by the community. The model fails to address significant differences in the learning of newcomers and more experienced members or ‘full’ members of a community. Continuity in the learning of experienced or full members is crucial to the long-term existence of a community.

As discussed earlier, the four constitutive elements of learning are complexly interconnected and mutually defining. This becomes evident when, as Wenger suggests, even if one were to displace any of the four peripheral components with learning and position the displaced component in the centre, the framework would still remain feasible and understandable. The components of the model are inextricably integrated and the model itself derives its analytical power from this inherent integration. In discussing the components I am mindful of their interconnectedness. Wenger, in his presentation of his theory, separates the text into two sections, namely, practice and identity. He then proceeds to engage with the concepts of ‘meaning’ and ‘identity’ within these sections.

In the analysis of the data that follows in Chapters Five, Six and Seven, I draw attention to the interconnectedness of the four components. I do, however, structure my analysis in terms of individual components so as to analyse teacher learning in relation to each component while simultaneously establishing associations and relations with the other components.

Perhaps the most poignant critique of the model is its failure to develop an instructional pedagogy as it neglects to acknowledge the role of a formal learning facilitator, teacher or instructor. For Wenger, instruction plays a secondary role; the role of the community as a whole in offering learners opportunities for participation is regarded as being more important. This presents as a serious challenge in applying Wenger’s framework, namely, his deliberate marginalisation of teaching as a fundamental process that produces learning. The model suggests that teaching is not a precondition for learning and may not be particularly useful for learning. His focus is on the concept ‘learning’ at the expense of any substantial discussion of teaching and advances the notion of ‘participation’ as being

more useful and effective than particular tools and techniques for learning. Relations of participation are foregrounded at the expense of the conventional teacher/learner dyad. Absent from Wenger's framework is a 'community of practice' perspective of 'teaching' and its implications for conventional approaches to teaching.

As discussed earlier, many would argue that most forms of traditional teaching have in fact been successful in relation to learning and that it is indeed problematic to discount teaching in relation to learning (Graven 2002). The theory suggests that we consider ways that will maximize learning by minimizing teaching. It also suggests an alternative way of interrogating conceptions of teaching so as to maximise learning.

Adopting a situative framework as espoused by Wenger raises the question as to whether knowledge is context bound and whether situative learning can lead to the acquisition of discipline knowledge. Situated learning trivialises knowledge that is decontextualized, abstract or general. It could well happen that learning might occur that could appear unrelated to a particular context.

Wenger's theory is derived from research and consultation in the business world. His earlier work with Lave (Lave and Wenger 1991) has its origins in apprenticeship training. They challenge the conventional master-apprentice relationship by arguing that mastery is not located in the master but in a community of practice to which the master also belongs. The implication of this perspective is that the focus of analysis shifts from the master as teacher to the organisation of the community of practice resources. In the school context, teachers could be viewed as masters who need to structure the curriculum in a manner that maximises learning. The conventional notion of face-to-face teaching is challenged as an efficient and effective way to enable learning.

In the South African education context, curriculum policy documents are littered with the loose usage of concepts like 'learner centred', 'teacher as facilitator', 'co-ordinator of learning', 'group work', 'discovery learning' and 'self study'. These principles are subject to wide variations in interpretation. While some teachers have ignored this

approach, others have 'opportunistically' elected to abdicate their basic teaching responsibilities (Graven 2002). Wenger's framework therefore needs further interrogation if it is to be applied to the school teaching context.

In establishing a community of practice as a vehicle for teacher learning, the assumption in terms of Wenger's framework is that the group of individuals, who come together to learn by participation in the activities of the community, do have substantial existing knowledge, if not background knowledge of the discipline they wish to master. TEMS teachers, however, joined the programme because they had virtually no formal content knowledge of commerce apart from the lay knowledge that they had acquired from personal experience. This then raises the issue as to whether such a community of practice has the potential to develop content knowledge without the input of an outside 'expert'. Without an 'expert' input, the community's resources would be limited to pedagogic knowledge and pedagogic content knowledge based on weak understandings of discipline issues. There is a distinct danger in using communities of practice, as a model for learning as learning communities can be very effective in *poor* practice. If little attention is paid to what is learnt, poor teaching practices and faulty understandings of key subject matter could be learned very effectively, become entrenched and continuously reinforced. There is also a 'dangerous' assumption that members of a community of practice are sufficiently alert and receptive and have already figured out what they need to know. This may not always be the case.

Wenger (1998) suggests that belonging to a community of practice is an intrinsic condition for learning and goes on to provide a very broad definition of communities of practice that implies that communities of practice can be quite varied. This means that almost anyone can be said to belong to some kind of community. Differences between communities of practice will arise from differences in the extent of 'mutual engagement', 'shared repertoire' and the pursuit of a joint enterprise. Wenger's 'failure' to present a 'tight' definition can also be viewed as a strength as teachers, for example, could arguably belong to many communities of practice, namely, their own school community, their specialist departmental communities or sports communities.

3.6 CONCLUSION

This chapter provided an outline of the theoretical orientation of the study so as to establish its coherence with the theoretical framework. The origin, development and refinement of Wenger's social practice theory were then discussed. The rationale for the perspective adopted in the TEMS project was presented. The chapter concluded with an analysis of the challenges presented by Wenger's framework. Chapter four focuses on research design issues of this study.

CHAPTER FOUR

RESEARCH DESIGN

4.1 INTRODUCTION

The empirical field for this research study was the TEMS (Teaching Economic and Management Sciences) teacher development project, a teacher learning community. This chapter is focused on the methodological issues relating to conducting this research study. Specific attention is given to issues related to conducting research on Economic and Management Sciences teacher learning during the TEMS project. The chapter concludes with a comprehensive discussion of the methodological orientation and research design, the coherence of the methodology and theoretical framework, procedures for attaining access and acceptance, sampling and data collection instruments.

4.2 THEORETICAL PRINCIPLES THAT INFORMED THE RESEARCH DESIGN

As stated in the previous chapter, contextual factors play an important role in influencing teachers and teacher learning and it is for this reason that a qualitative research study was considered to be most appropriate. The choice of methods and instruments was informed by symbolic interactionist theory as outlined in Chapter Two, and a desire for 'workability', flexibility and adaptability. A detailed discussion of the methods follows.

The main reasons for using a qualitative framework are:

- A qualitative approach allowed me to become involved in the experiences of the research participants and to develop detailed accounts of individual participants and the contexts in which they operated. This is particularly important in South Africa, a country with complex social, economic and political peculiarities. Quantitative methods ignore complex contextual factors.
- The complexity of the process of teaching and learning did not warrant a quantitative approach (see discussion in Chapter Two).

- While my professional input into the functioning of the TEMS community could be viewed as an ‘intervention’, my intention in this study was not to evaluate the effectiveness of the intervention but rather to study the process and nature of teaching and learning in the TEMS community of practice as well as an examination of the contexts in which teachers worked. A quantitative approach would have failed to capture a full understanding and appreciation of these complex social issues.
- A qualitative, interpretive position refutes the assumption of an objective, external reality that exists independent of the researcher. The intention in this study is neither an examination of social phenomena in terms of quantity, intensity or frequency nor an analysis of causal relationships between processes.

“The research methods most appropriate for symbolic interactionism fall under the general term ‘ethnography’” (Woods 1996:51). My research study drew on the essential elements of ethnography. Ethnography includes observational research (Delamont 2002). It implies that the researcher values the views, perspectives, opinions, prejudices and beliefs of the participants she is studying in an incredulous manner. Ethnographies involve the presence of an observer for prolonged periods in a single or a small number of settings. During that time, the researcher observes and talks with participants (ibid.).

Ethnography has the following elements:

- A study of culture
A culture is made up of certain values, practices, relationships and identifications. The ethnographer tries to make sense of what people are doing by asking: ‘What’s going on here? How does this work? How do people do this?’ and hopes to be told by those people the way they do things.

- Multiple methods, diverse forms of data
Because cultures are complex and multifaceted, gaining an understanding of them requires a variety of methods. Data may consist of written documents, the researcher's own field notes (including records of discussions, chance conversations, interviews, overheard remarks, observational notes), audiotapes, videotapes and quantitative data.
- Engagement
The most prominent features of an ethnographic approach are long-term engagement in the situation as things actually happen and first-hand observation. There has to be the 'human connection' with the participants, and the building of trust.
- Researcher as instrument
Much detailed and useful background on a setting is often subjectively informed. The researcher is regarded 'as her primary source of data'. Whether the researcher's subjectivity is a strength or weakness is not the issue. It is seen as an inevitable feature of the research act. However, recognising the presence of subjectivity is not the same as 'anything goes'. A balance must be struck between suspending preconceptions and using one's present understandings and beliefs to enquire intelligently. The ethnographer must try to articulate the assumptions and values implicit in the research, and what it means to acknowledge the researcher as part of, rather than outside, the research act.
- Participants' accounts have high status
Participants' accounts and actions should be in the foreground. The researcher should be able to 'get out of the way' and to act only as the 'information broker'. However, it is the researcher who remains the highest authority, who selects from what has been seen and heard, and who constructs the final account.

- Cycle of hypothesis and theory building

In this type of enquiry, developing a theory is a process. As new data emerge, existing hypotheses may prove inadequate, the ethnographer's sense of what needs to be looked at and reported on may change, and explanations of what is going on may be supplanted by ones which may seem to fit better. This is a process that is 'consonant' with that of emergent design.

- Intention and outcome

The ethnographer aims to discover how people in the study area find meaning in activities they care about in life, and how they engage in processes in which they individually and collectively define their situations. No attempt is made to generalise the findings beyond the case itself. The intention is to develop some kind of understanding of a specific case, whether it is cultural, people or research setting.

The outcome of this kind of research is to 'tell a story'. Ethnography contains descriptions of local places, snapshots of people's lives and relationships, their inner thoughts and feelings, their outward appearances, anecdotes of personal triumphs and disasters, rules, contradictions and meanings. Through a judicious blend of empirical experience, systematic activity and appropriate theory, the ethnographer hopes to construct a coherent theory that takes the reader into a deeper understanding and richer appreciation of the people who have been studied (Walford 2001:7).

While the above seven features are not meant to provide an exhaustive definition of ethnography, they do give an indication of the more specific focus of ethnography compared with the features of qualitative research in general. This study to a large extent meets the above requirements to be considered ethnography.

4.3 THE COHERENCE OF METHODOLOGY AND THEORETICAL FRAMEWORK

In the present study, theory was used in different ways. Wenger's social practice theory of learning informed the conceptualisation of the TEMS project and provided a focus for data collection. The research approach and the data analysis were guided by the tenets of symbolic interactionist ethnography. In terms of Wenger's social practice theory of learning, data collection would have to include teachers' voices and actions as they engaged in the community of practice. This necessitated a special kind of relationship with the teachers, one that involved building relationships, establishing trust, developing rapport and credibility, and developing mutual respect in order to gain meaningful and effective access to the data. Data collection would depend on active participation by research participants as well as acute researcher sensitivity to the participants in the study. Wenger's theory articulates well with the tenets of symbolic interactionist ethnography, which also advocates, "learning the language of the participants, with all its nuances... (and) to show how meanings emerge in interaction" (Woods 1996:41). Symbolic interactionist ethnography has much potential and "can contribute to a sociology of learning" (ibid.:75).

In the process of designing the research study, I had to work out the multiple roles that I would have to take on as the research process unfolded. Graven's (2002) approach to this dilemma was particularly useful and relevant to the current study. One of the roles that I adopted was that of 'participant observer' in the TEMS community of practice. This entailed my participation that took the form of me as facilitator of the TEMS project embedded in the community of practice (providing a professional input). Merriam (1998) notes that adopting this role requires that the observer's activities be well known to all and subordinate to the researcher's role as participant. My ventures into teachers' classrooms saw my role shift to that of 'observer participant'. In this instance, the observer's activities are known to all, but take precedence above participation. The dynamic nature of the research and the complex, constantly changing nature of the TEMS project influenced the way in which these roles of observer participant and participant

observer played themselves out. A comprehensive analysis of my role is provided in Chapter Seven.

Researchers inherently become a part of, and help to shape, the settings in which they study teachers' learning:

...as researchers trying to understand what teachers know and how they learn, we must be particularly attentive to the support and guidance that we provide... (B)ehaviourist perspectives ... worked hard to avoid this issue... recording what transpired (as if) not influencing it... (Putman and Borko 2000:14).

Researchers working within the interpretative tradition and holding a situative perspective, recognise that as researchers we are inevitably a part of the contexts in which we seek to understand teachers' knowing and learning. This issue is important when individuals take on multiple roles of researchers and teachers of teachers. Putman and Borko note that recent professional development programmes illustrate:

... the bringing together of teachers and university-based researchers or staff developers into new forms of discourse communities focused on teaching and learning. University participants can bring to these communities the critical and reflective stance and modes of discourse that are important norms within the academic community. In addition, they bring research-based knowledge... that can contribute to the improvement of teaching. Teachers, in turn, can bring to such discourse communities craft knowledge about pedagogical practices, their own students, and the cultural and instructional contexts of their classrooms (Putman and Borko 2000:9).

The next section deals with the various methods that were used in the research study. The fieldwork for this research study took place from October 2002 to February 2004. It entailed periodic interviews, classroom observations, informal discussions, and regular entries in my journal.

4.4 RESEARCH DESIGN

As already indicated, this study used multiple, interactive qualitative research methods. It attempted to utilise critical elements of case study research and ethnography to pursue the research agenda. One of the limitations of case study research is the issue of generalization. However, this mode of inquiry enabled me to generate an in depth account of contextually relevant issues and principles related to Wenger's theory.

4.4.1 The TEMS community as the empirical field

The TEMS community was a dynamic and constantly changing grouping of EMS teachers. Invitations to the TEMS workshop sessions were sent out to nineteen schools in the region. These stressed that attendance at the TEMS workshops was voluntary. Research participants received a formal letter (see Appendix 1) indicating the conditions of their participation (one of the conditions being regular attendance at workshop sessions).

Eleven teachers initially committed themselves to the research project as research participants. However, the actual number of TEMS research participants eventually constituted a core group of seven teachers. The four teachers that dropped off cited work pressures and personal reasons for their withdrawal. Four other teachers were regular attendees at workshop sessions but elected not to be part of the research project as research participants. Six teachers attended alternate sessions. These teachers came from schools that had a policy of alternating their representatives.

The arrival of new teachers was a feature of every session. The non-appearance of previous attendees was also a phenomenon of the TEMS community. Three teachers made a regular habit of arriving for a session, signing the register, waiting for fifteen minutes, then quietly exiting the venue. The existence of a community of practice does not depend on fixed membership (Wenger 1988). Participants fit into several categories and assume various roles within the communities of practice, such as a coordinator, who

organised events and linked community members; a core group of active participants who assumed leadership roles; an active group of frequent but not regular participants; and peripheral participants, members who occasionally took part, and ‘lurkers’ who learned from observation (Wenger, McDermott and Snyder 2002).

The table below provides a list of schools and research participants: ¹

Table 4.1: Schools and Research participants

Name of Participant	Name of School	Gender	Teaching Experience (years)
Beth	Pecan Primary	F	6
Kim	Eden Primary	F	25
Debbie	Eden Primary	F	15
Shirley	Eden Primary	F	8
Mary	Galley Primary	F	25
John	Neon Primary	M	21
Ben	Pecan Primary	M	19

The TEMS community can be represented as follows:

Table 4.2: TEMS community membership

Membership	Description	Number
Co-ordinator	Organised events, sent out invitations; administrative responsibilities; active member but not a research participant	1
Core group	Active research participants involved in all aspects of the study. Also assumed leadership roles	7
Active members	Non-research participants, but active members in the TEMS community	4
Alternates	Attended every alternate session – varied levels of participation	6
Peripherals/lurkers	Infrequent attendance – limited participation	4
Impressed volunteers	Present at sessions for short duration to record their presence on the register – minimal participation	3
New members	First time appearance at a workshop session – participation levels and subsequent attendance varied	At least one new teacher per session

¹ Note: Pseudonyms are used for schools and teachers.

4.4.2 Data collection

The following table provides a summary of the data collection with regard to the core group of seven participating teachers:

Table 4.3: Summary of data collection

Type of data	Nature of data collection instrument
Researcher's reflective journal	Regular (weekly), informal writings documenting interactions with teachers and principals, school visits and workshop observations
Initial Interview	Semi-structured interview (approximately 25 – 30 minutes) Interviews were tape-recorded and interview notes were taken. All interviews fully transcribed (January – March 2003)
First Classroom Practice Observation Reflection on observation reports	A semi-structured observation schedule was used to guide lesson observations. Critical incidents identified and discussed with teachers (Duration of lessons: \pm 60 minutes) (February – May 2003)
Second Classroom Practice Observation Reflection on observation reports (One video taped lesson of one consenting teacher)	A semi-structured observation schedule was used to guide lesson observations. Critical incidents identified and discussed with teachers Two consecutive lessons observed (Duration of lessons: \pm 100 minutes in total) Video footage capturing classroom interactions and activities October – November 2003
End of project interview	Semi-structured interview (approximately 30 – 40 minutes) Interviews were tape-recorded and interview notes were taken. All interviews fully transcribed (December 2003 – January 2004)
Workshop Observation Reports	Observation and transcription of video data (Monthly)
Independent Observer Reports (workshops)	Observation reports of 6 independent observers plus supervisor (October 2004)
Other data sources	Worksheets and workbooks compiled by teachers, teachers' lesson preparation files, pupils' books, tests and examinations

In keeping with ethnographic principles, data were collected in a natural setting. This entailed a close study of a culture in context (Walford 2001). Interviews were conducted on site at schools (see Interview Schedule in Appendix 2). I religiously kept my research journal (see extract in Appendix 3), which included observations about each research context (each school and the site for the TEMS workshops). For every interview, I made a point of arriving at the school at least forty-five minutes to an hour earlier than the scheduled interview. I would position myself in an unobtrusive position, sometimes simply sitting in my car if it provided a suitable vantage point. The purpose of this practice was to get a 'feel' of each school context and its operation. The energy and sounds emanating from different classrooms and playing fields provide a 'lived context' during the data analysis "...for the researcher to remember and theorise with greater intuition" (Jessop 1977:52). Geertz (1973) refers to this as the 'scientific imagination' required for effective theorising.

The observations and fieldnotes in each school context were different. Pecan Primary School serviced a very poor community. Almost all the pupils came from impoverished homes. Most families in the area struggled to meet their most basic requirements in terms of food. For this reason, the school had succeeded in securing sponsorship that enabled it to provide a daily meal to its pupils. Teachers were elected to a committee that was responsible for ensuring that the meal for each day was ready on time. Just before the school interval, class monitors would proceed to the school's kitchen (a classroom with a stove) to collect buckets of soup and loaves of bread for each class. Each class had its own bucket and cardboard box for this purpose. The meal was not a sit-down meal. Pupils were happy to hold their slices of bread and cups of soup in their hands while playing around in the school. The principal cited the provision of this daily meal as the main reason for excellent attendance by pupils.

On arrival at Neon Primary School, one gained the distinct impression that this school was well managed. During teaching time it was rare to find a teacher in the staffroom or children out of their classrooms. All classes were always manned. As I walked through the school I could see teachers and pupils busily engaged in their classrooms.

The school buildings, being only eight years old, were in excellent condition. The school was surrounded by a high fence with razor wire attached to the top of the fence.

Electronic gates led into a spacious car park. Gardens were immaculately maintained, with a just-watered look. Flowerbeds were freshly tilled. The school campus was in immaculate condition. It had a well-maintained sports field.

On entering the foyer of the administration, one was greeted with an appealing display of well-positioned posters, school achievement boards, and staff photographs. The foyer was spotless with shiny floors and a shiny staircase. The school secretary was ideally positioned with a view of the school gate, which she could open electronically from where she was seated. The sight of the principal moving around the school, visiting teachers in their classrooms, speaking to the gardeners as they tended the flowerbeds and engaging with parents was not uncommon.

Field notes of this type create a fuller picture of the research context and afford a more substantial basis from which to interpret the data. While data collection in a natural setting alone does not necessarily make the research more rigorous, it does place the research in context and provides the researcher with a greater opportunity to explore meanings that are not evident from verbal data. "Interpretation is likely to stand up better to the critics where time has been spent watching, talking, waiting and observing what happens in the context and indeed, the culture under study" (Jessop 1997:53).

4.5 METHODS

In qualitative research that seeks to interpret and make meaning within a particular research context, the central role played by the researcher implies that the researcher becomes the primary research instrument (Walford 2001; Wragg 2001; Delamont 2002).

In this qualitative study, my interest was in understanding the lived experience of teachers' worlds and the meaning they made of that experience. My prior experience in qualitative research as well as my reading of key texts by experienced qualitative researchers such as Delamont (2002), Woods (1986,1996), Wragg (2001) and Walford (2001), works which had given me both a practical and a theoretical foundation to conduct research in this tradition.

This study required the careful development of research instruments to assist the process of making meaning. It was essential to develop tools that would probe teacher thinking and elicit biographical and career data. In the process of developing such research instruments, I drew on the work of writers that included Graven (2002), Goodson (1992), Woods (1986, 1996), Pollard (1982), Hargreaves (1994), Delamont (2002), Wragg (2001) and Walford (2001). Issues relating to career choice, biography, motivation and self-esteem emerged from a reading of such works. My personal knowledge and experience of teachers' limited knowledge and pedagogic base with regard to Economic and Management Sciences also helped shape the development of the research instruments. Semi-structured interviews, semi-structured observation schedules (see Appendix 4) and journal notes were used in this research study. A careful study of each teacher's personal records (lesson preparation files, assessment files and general resource files) and pupils' notebooks and files was also carried out.

4.5.1 Interviews

"The interview is ...not just a device for gathering information. It is a process of reality construction to which both parties contribute and by which both are affected" (Woods1996:53). A research interview can be defined as "... a two person conversation initiated by the interviewer for the specific purpose of obtaining research-relevant information, and focussed by him on content specified by research objectives of systematic description, prediction or explanation" (Cohen and Manion 1994:271). The interview is a short-term relationship that must be carefully constructed. It is a social relationship that "gives us an opportunity to get to know people quite intimately so that

we can really understand how they think and feel” (Terre Blanche and Kelly 2002:128). Interviewers have to be mindful of the need to show understanding, respect, interest and attention during interviews (Woods 1996).

In this research study, use was made of semi-structured interviews. Hitchcock and Hughes note that a semi-structured interview

... allows depth to be achieved by providing the opportunity on the part of the interviewer to probe and expand the interviewee's responses. ... Some kind of balance between the interviewer and the interviewee can develop which can provide room for negotiation, discussion, and expansion of the interviewee's responses. (Hitchcock and Hughes 1989:83).

The advantage of the semi-structured interview is that the interviewer is in control of the process of obtaining information from the interviewee, but is free to follow new leads as they arise. It allows the researcher flexibility and freedom to probe issues that surface in the interview. To facilitate such a process, use was made of ‘open-ended’ questions that do not place restrictions on either the content or the manner of the interviewee’s responses. Cohen and Manion summarise the advantages of open-ended questions as follows:

Open-ended questions are ... are flexible; they allow the interviewer to probe; so that she may go into more depth if she chooses, or clear up any misunderstandings; they enable the researcher to test the limits of the respondent’s knowledge; they encourage co-operation and help to establish rapport; and they help the interviewer to make a truer assessment of what the respondent really believes. Open-ended questions can also result in unexpected or unanticipated answers which may suggest hitherto unthought-of relationships or hypothesis (Cohen and Manion 1997:277).

In adopting the above conception of the research interview, the issues of reliability and validity become ‘redundant’ as “... every interpersonal situation may be said to be valid, as such, whether it conforms to expectation, whether or not it involves a high degree of communication, and whether or not the participants emerge exhilarated or depressed” (Cohen and Manion 1994:282). The problem of partial or inaccurate information generated in interviews, may be at least partially dealt with through the process of triangulation. Walford (2001) questions the use of interviews as a sole method of data

collection. He questions whether concentration on the spoken word actually distorts the understanding of the cultures that researchers seek to describe.

As my relationship with the teachers developed, they willingly allowed me into their schools and classrooms I knew that I was 'in' or as Walford (2001:85) describes it, "...the natives had built me a hut." With increased access, I realised that there was no need for the second interview as the field notes supplanted interviews as a source of data collection. Most research is actually more interested in what people do than what they say they do (Walford 2001). In the case of classroom research, 'what they do' may well include spoken language, but it is spoken language in a particular context of ongoing naturally occurring classroom activity. What people say when they are interviewed should be treated with extreme care. According to Delamont (2002), interviews can produce data quickly, but they are different from, and inferior to, proper observational fieldwork. The important issue to consider is that of 'fitness for purpose', namely, what method is most suitable to achieve the desired objective.

The nature of the interview is an unusual affair in that the socially accepted rules of conversation and reciprocity between people are suspended (Walford 2001). The interviewer selects the topic to be covered. The views of the interviewee are taken to have lasting importance, to be recorded for future analysis. There is a strong irony in the way that "...so much modern qualitative research relies on tape recorded interviews as a main data source, for qualitative research ...grew in part in reaction to positivistic and experimental research that once held sway" (ibid.:89). Experimental methods are castigated as setting up unreal situations, yet within qualitative research, many researchers construct strange and artificial situations called 'interviews' and often use the results of these situations as the core of their writing.

What people tell us in interviews is often not to be trusted. People unconsciously take the interview opportunity to reconstruct a desirable or preferred identity (Walford 2001). Identity is created rather than revealed through narrative. Because life is uncertain, people

try to make sense of their worlds through interviews. Interviews provide an occasion to present a reasonably rational image of their uncertainty (ibid.).

Often it may be very time consuming to wait for information to be generated in naturally occurring situations. Some information might not be generated in naturally occurring situations no matter how long the researcher waits. The interview therefore gives the chance for particular questions to be asked that cannot be asked in any other situation. This type of situation is reasonable for the use of interviews as long as the results are treated with sufficient scepticism (Walford 2001).

Qualitative researchers involved in participant observation can be easily 'seduced' by the tape-recorded interview. Participant observation can be a frustrating experience that requires patience to sit and wait for data to be generated. In contrast, a tape-recorded interview provides immediate 'hard' data in the "... soft, uncomfortably insecure and always uncertain world of qualitative research" (Walford 2001:93). Delamont (2002:122) strongly supports the use of observational research as superior to other forms of data collection methods, and declares:

I am totally convinced that observational data, gathered over a long period of immersion, are superior to any others. The fashion for replacing proper fieldwork with either unstructured interviews or focus groups or the collection of narratives... is thoroughly bad. Such data are only interesting or useful to provide foreshadowed problems before observation or extra insight after it. Proper fieldwork is time-consuming, interviewing is a quick fix. Proper fieldwork is like a casserole: it should simmer for a long time at low heat. Interviewing is a take-away chow mein; it lacks authenticity and does not satisfy for long – 'data to go'.

With regard to transcribing interviews, there can be no firm rules about transcription (Walford 2001). There is no need to fully transcribe more than a few interviews for any research study. Researchers could listen to the whole of each tape using a tape player with a counter. It is often more useful to conduct the analysis using the original tape recordings rather than the transcripts (ibid.). The tape recording itself is not an accurate record of a conversation, as even the most thorough transcription cannot capture the

physical context, the complex body language between participants, the pace, accent, accentuation and the tone and melody of the speech. The conversation is reduced to symbols on a page (Walford 2001:94). "...transcription can give the impression of permanence to something that is inherently transitory" (ibid.:95). It has the effect of turning an ephemeral event into something 'concrete' and fixed. It also encourages the possibility of the spoken word being taken too seriously and often out of context. While using tape recordings instead of transcripts may avert the possibility of this happening, it may allow the researcher to remember the "...complexity of the human condition and the context of construction of particular discourses" (ibid.:95). Delamont (2002) concurs that using a tape recorder does not absolve the researcher from making good notes, keeping a diary and reflecting on the social context of the interview.

In this research study, I made use of semi-structured interviews. The interview schedules used in the Graven (2002) study of Mathematics teachers' learning proved useful. Selected questions were adapted for use in the present study of EMS teachers. My original plan was to interview participants at three points in during the project. This would have entailed an initial interview that would be used to capture baseline information, including teachers' biographies, their perceptions of EMS and their abilities to teach EMS, and their reasons for participation in the study. The second interview was intended to capture a mid-term review of teachers' experiences. A final interview would provide a summative view of teachers' experience. As mentioned earlier, my constant interaction with teachers as a result of the extended time I spent with them in their schools and classrooms obviated the need for the second 'formal' interview. Data gathered from observation and informal conversations were recorded in my journal.

In order to enhance the validity of the initial interview schedule, it was piloted with two EMS teachers who had elected not to be participants for the full duration of the project. These two teachers were 'peripheral' members who alternated their attendance at TEMS workshops with other teachers from their schools. This piloting allowed me to check the instrument for clarity and meaningfulness of questions. This was in keeping with Wragg's suggestion for the enhancement of instrument validity (Wragg 2001). The

interview schedule was presented to the participants one week prior to the interview so that they could think about the issues raised and provide some depth in their answers as opposed to providing superficial answers 'off the cuff'. Participants were at liberty to refrain from answering any question they deemed 'sensitive'. All participants, however, were happy to answer all questions posed. All interviews were conducted at participants' schools, except for one that was conducted at a participant's home. This was at the request of the participant. Each interview lasted for approximately thirty minutes. During the interview I used a series of prompts and probes in order to make the meaning of the responses clearer. All interviews were audio taped and transcribed. From the set of seven initial interviews, I personally transcribed the first two interviews. This process allowed me to reflect on the interview process and to begin a tentative analysis of the interview data. A preliminary interview report was compiled and presented to each participant for verification. Such a strategy enhances the 'internal validity' and accuracy of the data (Cresswell 1994). Apart from a few minor changes and initial anxieties at seeing their spoken words in text, all teachers were satisfied that the interview report was an accurate reflection of their biography, their perceptions of EMS and the reasons for their participation in the research study.

In the later analysis of the interview data, I was mindful of Delamont's (2002) warning that when gathering data it is wise to look out for 'contrastive rhetoric and rosy-trimmed nostalgia'. Participants may believe that the past was better. The researcher's task is to record such views and to be mindful of believing them.

4.5.2 Keeping a journal

Journal entries were made regularly, at least once a week. Field notes are an indispensable data source (Anderson 1999). These should contain everything the researcher finds worthwhile. Field notes are the researcher's detailed and descriptive record of the research experience, including observations, a reconstruction of dialogue, personal reflections, a physical reflection of the setting, and decisions made that alter and direct the research process. Delamont (2002) argues that field notes are not a closed,

completed, final text: rather, they are indeterminate, subject to reading, rereading, coding, recording, interpreting, and reinterpreting. She also notes that most researchers are protective about their field notes. They are rarely seen by anyone other than their author, and not discussed.

My journal served several purposes. Recording entries allowed me to capture and organise my observations during workshops or after informal conversations with participants. My role during initial workshops entailed making a professional input at TEMS workshops. While performing this role, I was also performing a role as researcher, observing and recording data for research purposes, adopting the role of 'participant as observer' (Merriam 1998).

This research study was characterised by an emergent design in that initial data collected influenced how the TEMS research project was to unfold, the nature of the lesson observations, and the framing of the final interview. The journal allowed me to reflect on and analyse my observations and conversations with teachers and principals, as well as on observations during the workshop sessions. The journal was a key instrument that influenced the form and shape of this research study.

My journal writing, which I made available to my supervisor, served as a basis for discussions during supervisory sessions. It also served as an important data source for the preparation of two conference papers.

My initial 'writings' in the journal proved to be a frustrating and painful exercise. I would often have to remind myself of the need to write. I sometimes experienced difficulty deciding what to write about. My revisiting the work of Delamont (2002), Wragg (2001) and Walford (2001) was useful in helping me understand the effective use and value of maintaining a purposeful and efficient journal. While the writing was relatively free-flowing, from my re-reading (at later stages in the research process), I could detect that my initial writing was not as free flowing as it could have been. I found that I was in fact writing in a style that would allow for easy comprehension by my supervisor. As I

became more comfortable with the research process and the requirements of an effective journal writing style, I was able to pen my thoughts and ideas as they occurred to me. I used a system of writing up points I wanted to describe into a notebook I had especially for this purpose. I would then capture and save this onto my computer in a more comprehensive fashion. While I did not pay attention to any kind of close editing, issues of language and spelling automatically showed up and were corrected at that point. The writing, to a large extent, became more relaxed and spontaneous as the research process unfolded. This final research report contains several extracts from my journal, and each extract appears in its original form.

4.5.3 About observation

The task of the educational researcher is very often to explain the means by which an orderly social world is established and maintained in terms of its shared meanings. Observation studies are superior to experiments and surveys when data are collected on non-verbal behaviour (Cohen and Manion 1994). The qualitative researcher is able to discern ongoing behaviour as it occurs and is able to make appropriate notes about its salient features. Observations generally take place over an extended time, which allows the researcher to develop more intimate and informal relationships with those they are observing. This research study necessitated a close relationship between the participants (teachers in the TEMS project) and myself (as researcher).

Although this research study did not adopt a systematic observation orientation, I will, however, briefly outline the nature of early classroom observation research and explain its inappropriateness for this research study. In the late 1960s systematic observation was the dominant method of research on classrooms. Systematic observation involved the observation of large samples of teachers and pupils. Observers systematically coded activities that took place at regular intervals (for example every three seconds or every twenty five seconds) according to a coding scheme. The most popular coding system of this kind was developed by Ned Flanders. He developed the FIAC (Flanders Interaction Analysis Categories) which was designed to measure variations in the level of control of

the teacher over classroom events (Flanders 1970). Numerous researchers have since critiqued the FIAC. Hammersley (1993:45) summarises these criticisms as follows:

- Systematic observation provides data only about average or typical classrooms, teachers and pupils;
- It typically ignores the temporal and spatial context in which data are collected;
- It is usually only concerned with overt behaviour; and neglects features that are possibly more meaningful;
- Being concerned only with what can be categorised can distort, obscure or ignore qualitative features through crude measurement techniques or by using categories with ill-defined boundaries;
- It focuses on small 'bits' of action rather than global concepts. This leads to a lack of potential to generate fresh insights;
- The pre-specification of categories determines what is discovered by the research;
- Placing arbitrary boundaries on continuous phenomena obscures the flux of social interaction.

While the Flanders schedule was able to provide feedback on the extent to which teachers were authoritarian or child-centred, Furlong and Edwards (1993) argue that it does not contribute towards our understanding of classroom research. In fact it produces 'dangerous illusions' that we already understand how classrooms work. Recent research in the field of classroom research seems to share a fundamental orientation that is 'non-behaviourist' (Hammersley 1993). The central aim has been to discover the assumptions, rules and strategies, which underlie and produce classroom interaction. Classroom research in this study adopted a similar orientation.

Two types of observation are suggested by Cohen and Manion (1994), namely, participant observation and non-participant observation. Participant observation is a situation where observers engage in the very activities they set out to observe. Their 'cover' could be so complete that as far as participants are concerned they are simply one of the group. They do however note that cover is not necessarily a prerequisite for

participant observation. Non-participants observers "... stand aloof from the group activities they are investigating and eschew group membership" (ibid.:107). The challenge with collecting observational data is ensuring that your presence does not alter the behaviour of the people in the setting. This is known as the 'Hawthorne Effect', and every effort must be made to prevent this from occurring (Anderson 1999).

My role in teachers' classrooms was that of 'observer as participant' (Merriam 1998). This was in contrast to my initial role in the workshops, which was that of 'participant as observer' (ibid.). In the role of observer as participant, my role was known to everyone and my primary activity was that of observation. Observation took precedence over participation, although I was occasionally drawn into lessons by questions asked of me by teachers (clarification of issues, presenting basic background information, or being asked to judge the 'quality' of 'products' that pupils had made).

Participant observation studies are not without their critics. Cohen and Manion (1994: 107) caution that this type of research is often described as "...subjective, biased, impressionistic, idiosyncratic and lacking in the precise quantifiable measures that are the hallmark of survey research and experimentation". This raises the question of internal and external validity. External validity addresses the question of whether the results of the case study are applicable to other situations. Internal validity addresses the question of whether the results of the research are the real thing or the genuine product, or whether 'findings' are clouded by the researcher's closeness to the data.

In Section 4.6.4, I explain the difficulty I had gaining access to certain teachers' classrooms and the need for me to develop trust and to convince teachers that the purpose of the classroom observations was strictly for research purposes. My intention was not to carry out an appraisal, but to undertake an observation of teachers' EMS practices. This was actually easier said than done. My nine years of commerce teaching experience and my present occupation as a teacher educator preparing trainee commerce teachers demanded that I be conscious of not evaluating the decisions and actions that teachers made during their lessons so as to avoid what Eisner (1991) refers to as the danger of

'connoisseurship'. I realised that my observations and descriptions were in fact affected by my prior knowledge and personal teaching style. Wickham (1998:43) observes, "that observation is neither objective or value-free and ... an observer's vision is skewed by her own subjectivities, ... descriptive language contains evaluative elements and ... it is difficult to divorce the two".

In order to establish how teachers taught EMS, I planned to observe teachers' lessons according to a semi-structured observation schedule. I was mindful of the fact that although I had had previous experience of classroom observation for research purposes, every classroom observation was likely to be a new learning experience. For this reason, a semi-structured observation schedule was developed. The work of Wragg (2001), Delamont (2002) and Cohen and Manion (1994, 1997) was particularly useful in shaping my perspective on classroom observations. Wolcott (cited in Delamont 2002:132) expresses scepticism about whether observational techniques of a reflexive, ethnographic kind can be taught. Research observation skills are best honed and refined during actual observations. The observation schedule was used to guide my observations and to foreground issues arising out of the critical research questions.

During the lesson observations, careful concentration and rapid shorthand enabled me to obtain much valuable information on the content and flow of each lesson so as to create a "thick description" (Geertz 1973:3). Critical incidents were documented. Of particular importance was the need to immediately compile a report. On this issue, Cohen and Manion (1997:112) assert that one should:

... never resume your observations until the notes from the preceding observation are complete... Until your observations and impressions from one visit are a matter of record, there is little point in returning to the classroom ... and reducing the impact of one set of events by superimposing another and more recent set.

Delamont (2002:138) supports this view by emphasising the importance of immediate reflection on field notes as follows:

It is not possible to record too much about a person, place or interaction, but it is idiotic to pile up lots of material without reviewing it and beginning to reflect upon it. Ten

minutes of good observation well written up is worth an hour's notes lying forgotten in an unopened notebook.

While it was not always possible to strictly compile every lesson observation report prior to a successive observation, I did however manage to achieve this to a fair extent. The interval between workshop observations (discussed below) was longer than the interval between lesson observations, allowing me to prepare draft reports before the commencement of subsequent reports.

In order to establish the nature of teacher learning, using Wenger's conceptualisation of learning as participation and changing identities of participants, it was important for me to observe and systematically document the processes as they unfolded at each workshop. An important way to document the formation of intellectual community is to look at the distribution of material resources (books, worksheets, notices, newspaper articles) and the extent to which real sharing begins to take place (Grossman et al 2001).

My role in the initial workshops was that of full participant, leading and facilitating the workshops. As I began to identify potential teacher leaders, I gradually relinquished my central role in this learning community by inviting such teachers to plan and facilitate workshops. Towards the later stages of the project, teachers had complete control of all aspects of their teacher learning curriculum and simply used me as a consultant. As the project proceeded, I began increasingly to position myself as 'researcher' and observer at workshops.

I elected not to video record initial workshops for several reasons. I was working with a relatively new group of teacher learners who had constituted themselves as the result of a need to come to terms with a discipline that was unfamiliar to them. Teachers expressed much anxiety at their level of 'incompetence' in teaching the EMS learning area and were looking for a supportive forum that would not add to their existing anxieties. While teachers may have known each other as result of having met at other forums, they had not developed any 'deep' relationships that could facilitate participation. Video recording

workshop sessions would have proved counterproductive. At a later stage in the project when I did broach the idea of video recordings, while few teachers expressed mild reservations, most teachers agreed to the suggestion.

My role in this learning community was interesting and challenging. I was allowed to enter this learning community of teachers with openness that at times felt like full participation, but I was frequently 'reminded' that I was an outsider. A 'suspicious'/questioning look by a teacher, a reference to a past event that I did not know about, an expression I could not understand, a teacher's anxiety about meeting examination deadlines, or even a teacher's joy in anticipation of the school vacation (during which time I was writing up research data), acutely placed my assumption of 'full membership' under question.

4.5.4 Sampling

Sampling is the process of selecting research participants. In quantitative research, the validity of the research depends on how rigorous the sampling procedures are. The present qualitative research employed the system of 'purposive' sampling (Lincoln and Guba 1985). The researcher targets subjects likely to yield the richest data for the research question under study. 'Contextual and tacit knowledge combines to assist the researcher to direct the sampling accordingly' (Jessop 1997:64). Similarly, Patton (1980) advises that in sampling, we must ensure that 'informants' are 'information rich'.

Delamont (2002) describes opportunity sampling as the process of seizing the chances of a setting or respondent when the opportunity arises. She further notes that honesty and reflexivity are crucial in sampling and that it is important to document how the sampling had taken place and the effect on the data collected. She argues that a sensitive discussion of how a snowballed sample responded to certain questions is more important than anxiety about whether it represents the population.

... there are no rules for sample size in qualitative inquiry. Sample size depends on what you want to know, the purpose of the inquiry, what's at stake, what will be useful, what will have credibility, and what can be done with the available time and resources (Patton 1980: 184).

In this study, the criteria for the selection of the teachers included their (lack of) EMS teaching experience, their commitment to the teaching of this learning area, and their commitment to participation in the TEMS project.

After the initial workshop, eleven teachers committed themselves to the TEMS project. It was important for me to earn the trust and respect of teachers and to develop a mutually satisfying relationship with each one of them. Gaining access to teachers' lives and work had to be built on trust and mutual respect. This proved to be crucial when it came to gaining access to teachers' classrooms.

4.5.5 Triangulation

The use of these multiple data collection methods has merit. Denzin (cited in Mouton 1996:167) coined the term 'triangulation' to refer to multiple methods of data collection which complement each other, thereby balancing out their respective shortcomings. Merriam (1988:69) argues that "... the rationale for this strategy is that the flaws of one method are often the strength of another, and by combining methods, observers can achieve the best of each, while overcoming their unique deficiencies". However, Patton (1980:330) asserts that there is "no magic in triangulation", that is, the researcher using different methods should not expect findings generated by different methods to fall into a coherent picture. A similar criticism of the romanticism associated with the concept of triangulation is presented by McFee (1992). He argues that while triangulation between methods compares two research solutions to a single problem in an effort to validate outcomes, it is premised on the claim that both methods are investigating the same thing. "... there is an intimate connection between methods and issues, so one cannot triangulate between methods unless one can be sure that both (or all) of the methods address the same issues" (ibid.:217).

4.5.6 Reflexivity

Reflexivity is a process in which "... the researcher recognises and glories in the endless cycle of interactions and perceptions which characterise relationships with other human beings" (Delamont 2002:8). Educational research takes place in a social context. She argues that the researcher should not "waste time trying to eliminate investigator effects", but should concentrate on understanding those effects. Reflexivity should permeate all aspects of the research process. Each researcher should be "constantly self-conscious about her role, her interactions and her theoretical and empirical material as it accumulates. As long as qualitative researchers are reflexive, making all their processes explicit, then issues of reliability and validity are served" (Delamont 2002:9).

4.6 INTO THE FIELD

4.6.1 Initial access

Negotiating access is part of the data collection process and should be properly documented. It is often fraught with break-throughs and blockages that shape the research process (Delamont 2002). The real world of research is one of constraint and compromise. A researcher has to continually negotiate further access to observe classrooms and interview teachers and students. At a deeper level, access can be seen as a process of building relationships with people within the organization. The aim is that teachers and students learn to trust the researcher to the point where they are prepared to be open and honest about their perceptions and beliefs. Access is thus never total, but might be seen as an incremental continuum, where the researcher is gradually able to move from initial permission to enter buildings to a series of developed and trusting relationships with some students and teachers. Access is always provisional as permission can be withdrawn at any time by principals, teachers, parents, or students (Walford 2001).

In Chapter One I described the sequence of events that led to my involvement with the community of EMS teachers. Gaining entry into the group of EMS teachers facilitated my eventual access to schools. The feedback that I received from teachers during the initial workshop evaluation session indicated that there was a need for regular workshops. It also confirmed the notion that teachers teaching EMS were in fact struggling to develop and teach the EMS curriculum. The absence of subject content knowledge in EMS appeared to be the main difficulty that EMS teachers experienced.

4.6.2 A way around gatekeepers

In ethnography, the term 'gatekeeper' is referred to as the person who is able to grant access to the research site. Once I had gained initial acceptance by the participating teachers, gaining access to the schools became an easier task. The principals of all five participating schools, having received positive feedback about the initial EMS workshop, were very receptive of me and were keen to learn more about the project. Educational researchers must learn to 'sell' themselves and their research more effectively (Walford 2001). Researchers have to be clear how the research project can be 'sold' to those who can grant access and clarify what the potential benefits are to them. Researchers have to be clear about what benefits researchers, the process of research, and the research findings themselves can offer.

The researcher must use the initial interview to quell any doubts that the principal may have about the research (ibid.). Issues of confidentiality and anonymity must be discussed. It is important to plan how one presents oneself at access meetings. It is crucial to make a good first impression with gatekeepers (Delamont 2002). Attention needs to be paid to dress and hairstyle and to what personal information one divulges. I made a point of being formally dressed, wearing formal pants with collared shirt. This proved to be important as all the principals in the participating schools were always formally dressed and presented official and businesslike dispositions at the initial meetings. My introduction to the principal of Eden Primary School was a critical point in the project. At

this meeting, this school was identified and agreed on as the permanent base for the project. The following is an extract from my journal notes:

The principal of Eden primary was middle-aged man, who was bustling around trying to deal with parents who had come in to see him. I was grateful for the brief meeting with him. In the discussion I learnt that he was in fact a close relative of a former student that I had known. This was helpful in that it helped establish rapport with this 'gatekeeper'. I was fortunate to be very cordially received by the principal. He indicated his willingness to help me in any way he could. ... (I) broached the idea of basing all workshops at Eden Primary for the rest of the year. He agreed to this proposal and volunteered the use of his school library for this purpose. I spelt out the details of the workshops and explained my professional and research role in the project. He expressed his support for my efforts and commented that if the teachers and pupils were going to benefit from the exposure then he had no objection to the project.

The principals of all participating schools were keen to be viewed as actively supporting their teachers' professional development. They mentioned that if the research project were to be of benefit to the teachers and the pupils then they would support and allow the research study to take place at their schools even though I had not acquired official permission from the Department of Education.

Careful thought must be given to how to interest school principals in the research (Walford 2001). In preparation for the interview with a principal, it is important to work out what one wants to say and to also anticipate what the school principal might ask or want to say. Principals definitely like to talk. When an appointment is made by telephone, they are often careful to explain how busy they are and how little time they have to spare but, once in the office, they seemed to have far more time than expected. This phenomenon was certainly the case for all the principals in this research study. Supposedly 'busy' principals were very keen to engage with me on a range of issues, from reminiscing about their early days as teachers, to their own current studies and community involvement, to detailed episodes of the Department of Education's incompetence. It is not inconceivable that researchers could develop a feeling that schools and teachers should be privileged to take part in the study. If the researcher has generated a desire to take part in the research, it may be possible to use the 'scarcity'

tactic by indicating to research participants that they had been especially selected to join a limited number of schools to take part in the project (Walford 2001). All principals in this study appeared to be acutely aware of the need to be seen to be 'progressive' and supportive of their teachers' development.

My regular visits to each school often necessitated a fifteen to twenty minute 'compulsory' talk with the principal before I could get to the teachers. It became necessary for me to factor this into my planning. In my interactions with principals, it became increasingly clear that my continued access to teachers and their classrooms depended on maintaining cordial relationships with the principals of the schools. Establishing and maintaining rapport with key gatekeepers was crucial to the success of the research study. As researcher and strategist, I soon learnt how to identify issues that principals enjoyed conversing about and used this to good advantage as and when the need arose.

4.6.3 About reciprocal relationships

Asking people to volunteer as participants raises major ethical problems. People most likely to volunteer tend to be the more powerless in society (Anderson 1999). People may feel obligated to participate because of peer pressure or people may volunteer with the expectation that they may be helped. However, in developing the relationships with principals and schools, I was mindful of the need to develop reciprocal relationships. Lather (1986:263) defines reciprocity as follows: "Reciprocity implies give and take, a mutual negotiation of meaning and power". According to Vithal (2000) reciprocity averts the likelihood that the research process may be a failure. Reciprocity is likely to strengthen research participants' commitment to the research project. The principal of Eden Primary, the base for the project, received personal recognition and recognition for his school by having all project correspondence such as invitations and workshop notices printed on his school's letterhead with him as co-signatory.

The lengthy timeframe of this project required a sustained cordial relationship with teachers and principals. Access is not negotiated once and then settled. It is a process and not a simple decision (Delamont 2002). I adopted a range of strategies to establish myself in each educational setting.

A former teacher education college that had merged with the university had thousands of good quality textbooks in storage. These were identified as surplus stock and available for donation to needy institutions. This presented itself as an ideal opportunity for me to build and develop relationships with each of the participating schools. Four of the five schools participating in the project were schools with developing libraries. I 'donated' a large number of books from the University library to each of the participating schools. These books included dictionaries, English classics (by authors that included Jane Austen, Thomas Hardy, VS Naipaul and Alan Paton), books on drama, first aid, and coaching various codes of sport, poetry, magazines as well as equipment, games and other artefacts that could be of use to the school. I also provided teachers with personal copies of some of the 'classics' that teachers said they particularly liked. This gesture further strengthened my relationship with the principals, the participating teachers and other powerful teachers at the school.

At Eden Primary, I made a deliberate purchase of tickets for the school's fundraising dance, and made a point of attending all the school functions that I was invited to. I made regular appointments with teachers, always at their best convenience and made a point of keeping my appointments and arriving on time. I regularly provided the teachers with curriculum materials that I had specially developed for an in-service programme in Economic and Management Sciences as well as relevant material that I had acquired over the years that I was a commerce teacher educator. Through my research fund, I was able to purchase good quality durable files, which I personalised for each teacher by printing their names on. Included were file dividers, writing pads and computer diskettes with electronic versions of the 'hard copies' of materials that I had provided.

On the occasions that I delivered books to each school, I would wear my old jeans and T-shirt as it involved lugging crates of dusty books that had been stored in the basement of the college library. Principals and teachers were 'impressed' to see a 'university lecturer getting his hands dirty' as one principal described it. This allowed the participants to see that there was another side to this 'stiff and starchy' university lecturer. It further facilitated rapport and access.

This study hinged on developing strong reciprocal relationships with the research participants (teachers). If researchers cannot find convincing benefits of the research study, then the study ought not to be conducted (Walford 2001). The direct benefit of this study to teachers was my role as co-ordinator of the TEMS project that enabled me to make a professional contribution to the facilitation of teachers' learning. My professional input took the form of workshop presentations on a range of subject content topics, and making available resource material for collection and dissemination of material developed at workshops. Research participants regularly requested individual assistance at their school sites and often sought telephonic clarity on EMS issues they were unclear about.

4.6.4 About Informed consent, confidentiality, blockages and break-throughs

All of the participating teachers had been teaching for more than five years with the two most senior teachers having taught for twenty-two and twenty six years. These teachers had not had anyone observe them teach in more than two decades. At least two teachers expressed reluctance to have their lessons observed. Mary, one of the more senior participants, frequently stated that she was very nervous about a 'university lecturer' coming into her class to observe her. She said that it had been more than twenty years since anyone had visited her class or observed her lessons and she recalled the anxiety she felt during her teaching practice sessions as a student teacher and her initial years as a teacher. Memories of the tyranny of the former apartheid school inspectors during visits to schools in the 1970s and 1980s appeared to be traumatic events that some teachers had still not worked through. Delamont (2002:141) argues that, "... it is hard to recognise that

as a researcher one is a nuisance (at best) and that many people ... may actively resent, fear or resist one's presence." Negotiations around teachers' anxieties are discussed later in this section.

If the principal is of the opinion that teachers stand to gain from the research activity, then it is expected of teachers to participate in the research project. Teachers' rights to decline are compromised by the power relation between themselves and the principal. "The principle of informed consent is a standard feature of ethical procedure in social research" Homan (2002:24). Participants must be informed about the nature of the research and participation is voluntary. The principle of informed consent constitutes four elements. Firstly, all pertinent aspects of what is to occur and what might occur are disclosed to the participant. Secondly, participants should be able to comprehend this information. Thirdly, participants should be competent to make a mature and rational judgement. Finally, the agreement to participate should be voluntary, free from coercion and undue influence (Homan 2002; Cohen and Manion 1994). Anderson (1999) posits two further elements, namely, that participants should be made aware of the foreseeable risks as well benefits that may accrue to them. In educational research, this principle is widely compromised (Homan 2002). In this research study, I was careful to accord teachers utmost respect, and I was mindful of violating their rights as participants in this project.

In developing relationships with teachers and principals, I had to be mindful of the power relations that existed between principals and their teachers. Walford (2001:45) warns that there is a need to be careful about the agendas of those who have power. It is far from unknown for principals to suggest that researchers observe certain teachers about whom they want information. The teacher may not be able to refuse a request, but the researcher should be very clear that observations and interviews are confidential and are not fed back to the principal. The problem of feeding back information to the principal would compromise the research and lead to severe ethical problems.

“Confidentiality involves a clear understanding between the researcher and participant concerning how the data provided will be used. Confidential information implies that the identity of the individual will remain anonymous ... and that the reader of the research will not be able to deduce the identity of the individual” (Anderson 1999:20).

Confidentiality is intended to reassure participants that they can reveal what they otherwise might not, in order to help the researcher to understand their perspectives more fully, and with particular sensitivity to their feelings.

It was clear that the principals of the participating schools had their own agendas. In three of the participating schools, the principals were eager to receive regular feedback on the progress of the project and would often ask questions relating to the progress and development of the teachers. One of the principals initially requested a quarterly written report on the project. I had to diplomatically explain that such a report was not possible, as it would compromise my relationship with the research participants.

At this school, while the principal gave me free access to the school and teachers, some teachers were initially unwilling to allow me into their classes. They were content to attend the workshops but were uncomfortable to have me sit in on their lessons. These same teachers were also content to have me examine work they had already covered, worksheets, tests and examination papers. Even when the ‘rules’ originally negotiated do not turn out to be less stringent than expected, or more rigid and restrictive, access may still have to be negotiated (Delamont 2002). It became apparent that the level of access was not what I had initially thought I had, and that I needed to develop and strengthen my relationship with these teachers. Although I had gone to great pains to explain that the lesson observations were strictly for research purposes and that teachers’ anonymity, privacy and confidentiality would be respected, it was clear that I had to earn teachers’ trust and not to be overzealous in my attempts to observe lessons. On several occasions these participants’ appointments had to be rescheduled for reasons, which included personal commitments and plain failure to remember appointment dates and times. Delamont (2002) warns that a participant’s rescheduling of appointments may be a way

of gently testing the researcher's keenness to obtain the data. It was also clear that my research study was not on their list of priorities.

A break-through with this group of teachers came when I was requested to provide assistance in developing a term plan for teaching EMS at their school. I successfully facilitated a brainstorming session with these teachers in which a tentative EMS curriculum was framed. It took a while for teachers to realise and understand that although I was engaged in a research project, I was also genuinely and sincerely interested in their development as EMS teachers and the development of EMS at their schools. On one occasion, one of the research participants was particularly moved when I 'sought her out' to give her material she was desperately looking for. She remarked, "I can see that you are really into EMS ... thanks for thinking of me." This was a critical incident in our relationship as I felt that I had made a significant breakthrough with this research participant. Critical incidents of this nature have a common characteristic, which Delamont (2002) refers to as 'genuine feelings' and that establishing rapport with participants is hard work. Personal attributes or actions can work to ease the process. These actions certainly helped strengthen my relationships with the teachers and facilitated access into schools and classrooms.

There is always a "... structural tension between teachers and researchers, and additional problems may occur when there are differences of race, religion, gender ... or political views..." (Delamont 2002:149). I initially experienced some difficulty in establishing rapport with the African teachers in the study. A culture-clash between researcher and informants can affect rapport. I was Indian, they were Black African; I was an 'observer' and they the 'observed'. Being a non-Isizulu speaking Indian male, researching in a semi-rural African school in KwaZulu-Natal created its own challenges. The fact that I did not speak the mother tongue of both the teachers at this school certainly affected rapport and access. In some of our discussions, teachers would sometimes switch into isiZulu to clarify an issue amongst themselves, and then turn to me with a suggestion. This was particularly apparent when I was negotiating times for appointments and observations. Both teachers were aware of the fact that I did not understand isiZulu and

consciously spoke English in my presence. During the time spent observing in this school, it became evident that while the official medium of instruction was English, most teaching took place in isiZulu, including normal conversations between teachers. Gaining access to the finer nuances of teachers' conversations and lessons certainly presented an interesting challenge to me as researcher in my endeavour to obtain quality data.

With the Indian female teachers, the fact that I was male meant that I struck up a different kind of relationship with the Indian females. At Eden Primary, the female teachers initially insisted that they take care of the refreshments by making arrangements for and organising and laying out the cakes, biscuits, tablecloths and soft drinks. They initially found it difficult to understand why I would want to do this task and appeared uncomfortable with me performing these tasks. They would speak more openly and freely about family and child rearing difficulties and home pressures to each other than they would to me. Debbie, a participant, mentioned that as a woman, there were many things that they had to juggle at the same time. They would turn to each other for acknowledgement but assumed that these difficulties/pressures did not apply to me. I was determined to build issues of gender stereotyping into the curriculum so that teachers could begin to engage their own pupils on such issues.

School secretaries are well worth being good to (Walford 2001). They are able to help or halt the research approach according to how they are dealt with. Establishing a cordial relationship with the secretary of the base school was crucial. I was conscious of the need to be polite, courteous and patient when dealing with the school secretary. This proved to be significant. In the absence of the school principal, the school secretary appeared to be the second tier of authority and often acted as a conduit of information between me and the teachers or the principal. She also willingly took on the responsibility of the administrative aspects of the project.

One often hears stories of principals' and teachers' scepticism of researchers and their surreptitious intentions. Researchers are consequently treated as though they have the plague. Fortunately, my experiences with the research participants and their principals

were cordial and professional. The research participants with whom I had established contact in 2002 facilitated access to all participating schools. All teachers had sought verbal agreement in principle from their respective principals. I did, however, formalise the arrangement with letters to each principal requesting permission for me to conduct research in their schools. The letter indicated the purpose of the study, the confidentiality and anonymity which the schools and the teachers would enjoy and an undertaking that my presence would cause minimum disruption to the schools' programmes (see Appendix 5). Each teacher was also given a similar letter outlining his or her roles in the research project (date of commencement, duration, interview procedures and classroom observations and workshop participation) (see Appendix 1).

4.7 EXITING THE FIELD –TERMINATING FIELDWORK

While there may be no ideal or normal length of time to be in any field setting, it is important to stay long enough to appreciate the 'historical rhythm' of the institution one is studying (Delamont 2002). In this research study, I spent seventeen months in the research field gathering relevant data. Researchers could decide to stop collecting data when they have exhausted their resources, where they have spoken with the necessary people and have recorded sufficient data to complete the study. If a researcher has saturated her categories and was only receiving 'tiny bits' of new information; or, the emergence of regularities, that is, when the researcher begins to observe consistency or regularity in her themes, categories or constructs, then it was time to terminate the fieldwork (Anderson 1999).

Finance is nearly always a major constraint that necessitates some compromise to be made between what the researcher would ideally wish to do and what is possible (Walford 2001). In ethnographic research, for example, financial compromises can determine the amount of time spent in the field, the extent to which interviews can be fully transcribed and the extent to which the observer can truly participate in the lifestyle of those she is studying. Time is also a fundamental constraint that impinges on all

research. This includes time in the field, for analysis, the development of theory, and the writing and publication of research reports.

My decision to terminate the fieldwork in this research study was based on the fact that data collection had to a large extent gone according to my initial data collection plan. Most importantly, I had collected data of sufficient quality to address the research questions I had set out to pursue.

4.8 CONCLUSION

This chapter has provided a discussion of the theoretical principles that informed the research design and established the coherence of the methodology and theoretical framework of this study. A comprehensive account of the research design issues, methods and fieldwork was also presented.

Chapter Five presents an analysis of one teacher's learning (in terms of Wenger's framework) as a frame for subsequent analysis.

CHAPTER FIVE

HOW HAD TEACHER LEARNING OCCURRED? CONSTRUCTING A WEBERIAN STYLE 'IDEAL TYPE'

5.1 INTRODUCTION

The purpose of this study was to investigate Economic and Management Sciences (EMS) teachers' learning in a community of practice, designed in accordance with the principles of social practice theory (as espoused by Lave and Wenger 1991; Wenger 1998 and Wenger, McDermott and Snyder 2002). As outlined in Chapter 3, the study drew primarily on Wenger's (1998) work, and used his conception of learning as constituting four essential components, namely, *meaning, community, practice and identity*.

As noted earlier, in South Africa teacher biographies and individual contexts are compelling factors in teacher development. These factors were also important in this study, as they represented significant determinants of the extent of individual 'learning'. Wenger's work offers limited insights into factors affecting the development/learning of *individuals* in a community of practice. In this research the work of Bourdieu (1986) is accordingly drawn on to supplement our understanding of the individual dimension. Although Bourdieu (*ibid.*) did not address learning directly, his constructs, namely, economic capital, social capital and cultural capital were useful in understanding and analysing factors that contributed to or impeded the learning of individuals within the community of practice. Differences in 'capital' in all its forms certainly influenced individuals' levels of participation and learning in the TEMS community. This analysis begins in Section 5.7.

The decision as to how to proceed with the data analysis and its subsequent presentation was indeed a challenging one. While Wenger's (1998) work offered a theoretical framework and the conceptual tools, the dilemma as to how to apply Wenger's framework to the data that was gathered was a matter that needed to be resolved. Various options for the data analysis and presentation were explored, each presenting particular

difficulties. The work of Graven (2002) was useful and it was for this reason that a strategy similar to that used by Graven was pursued. It must be noted though that the current study attempted to extend on Graven's approach by embracing Wenger's later work (Wenger et al 2002) and the work of Bourdieu (1986) in the analysis.

This chapter begins with a generalised finding that will be supported and nuanced as this chapter proceeds and in the chapters that follow. This generalisation is:

As the TEMS project proceeded, it became clear that teachers' participation in the project had resulted in learning taking place for all participating teachers. Evidence of such learning could be gleaned from the way teachers demonstrated changes with regard to:

- The way they made *meaning* of the new EMS learning area;
- Their actual *practice* in their EMS classrooms;
- Their changing professional *identities* within and outside the TEMS programme;
- Their participation in the TEMS *community*.

It must be noted that although Wenger's framework provides a useful tool for an analysis of learning as constituting four components, these components and the changes that took place within them were inextricably linked to one another. This complex relationship between the components is presented in the ensuing analysis.

From the data sets for each participant, it was evident that movements and shifts had taken place for all participating teachers. It was clear that the changes for each were in fact positive changes that manifested themselves in the form of improved 'involvement/performance' in respect of all four components. All participating teachers in the study demonstrated improved ways of talking about their changing ability to experience the new EMS learning area and make meaning thereof. Participants had also developed and enhanced their pedagogic and subject matter knowledge with regard to EMS. They had become more active in an expanded range of school and community activities. All participants had grown in terms of who they were and what they were becoming in the context of their communities. However, the rate and extent to which

individual participants changed differed. Teachers' biographies, personal epistemologies and motivations influenced the extent to which their learning 'progressed' in terms of the four elements of learning as espoused by Wenger. While some teachers were attracted by the excitement of learning new commerce content knowledge, others emphasised the importance of developing pedagogical content knowledge. For some participants, the social aspect and networking provided by the TEMS project was particularly appealing. For others, TEMS provided an opportunity to develop and refine personal identities, a means for personal growth and advancement.

This chapter provides a detailed narrative vignette of one research participant, a strategy gleaned from Graven (2002). The reason for the selection of one teacher is to provide an analysis using a 'thick' description (Geertz 1973) so as to illustrate with richness and fine-grained texture the nature of the change that had occurred for this teacher. An analysis of this teacher's learning in terms of Wenger's (1998) four components of learning is presented. This is summarised and consolidated in tabular form and captures the key difference in terms of these four components of learning (see Section 5.7, figure 5.2).

Wenger's framework provides a basis for theorizing the frame for the data analysis that follows in Chapters Six and Seven. Full data sets for all participating teachers were compiled. These included initial interviews, lesson observations, records of conversations and interactions with teachers (made in my journal) and data from final interviews. Interviews were recorded, transcribed and returned to teachers for verification (see Chapter 4).

From the data sets, John's data set was selected to demonstrate the nature, extent and complexity of teacher learning that had occurred during the TEMS project. The rationale for this selection was that John demonstrated the most significant changes with regard to Wenger's four components of learning. A narrative vignette was constructed from selective transcripts drawn from interviews, informal conversations, classroom observations and TEMS workshop observations. In qualitative research, selection is

unavoidable and should be informed by the overall purpose and theoretical perspective of the study (Carspecken 1996). All science involves selection as well as abstraction. Abstraction is essential for the understanding of any particular social phenomena. 'Ideal Type' is a construct that serves as a methodological tool that can be used in the analysis of social phenomena (Weber 1949). An 'Ideal Type' is constructed from elements and characteristics of phenomena under investigation but is not intended to correspond to all of the characteristics of any one case. The concept 'Ideal Type' enables the creation of a composite picture against which all the cases of a particular phenomenon may be compared.

Following, then, the account of the learning of the selected teacher (John), the next two chapters examine the most important trends that emerged for teachers in relation to their learning, and concentrate on the similarities and divergences across the teachers.

An important element within the study is the question of how teacher biographies impacted on their implementation of the new EMS curriculum in the classroom and the effect that the contexts in which teachers worked had on their learning. It is for these reasons that the account that follows begins with a description of the teacher and the school in which he worked.

5.2 A NARRATIVE VIGNETTE OF JOHN AND HIS SCHOOL

5.2.1 John's biography

John was an Indian teacher in his mid forties. He had been teaching for twenty-three years. Having grown up in an extended family of teachers, he had been influenced by them to join the teaching profession. He described himself as coming from a poor family. As a child, he remembered growing up in a tin house in an area on the periphery of urban development. He recalled how his family had been forcibly removed from their first home as a result of the notorious Group Areas Act. As a result, John felt that as a pupil he had been robbed of a stable school experience. Because his family had had to uproot and move from the area in which they originally lived, he was forced to move to another school. The authorities subsequently closed his old school.

He received his schooling under the Ex-House of Delegates (Ex-HOD). He felt that while facilities in former Indian schools were 'very good', they were not as good as the former white schools, but definitely much better than the former Black schools. He regarded the teachers who taught him as a 'dedicated band of teachers', and that the dedication of his teachers was motivation for pupils to want to work hard and produce good results. He identified his high school sports teacher as a source of inspiration to him and recalled that this teacher personally took him (John) to the hospital when he had broken a collarbone during an athletics meeting. That experience motivated him to act in a similar way. When children injured themselves or fell ill at the school at which he was teaching, he did not hesitate to use his personal vehicle to transport them to the doctor or a hospital.

John regarded himself as being fortunate to have received a bursary to attend a teacher training college where he completed a teacher education diploma. Although he was a level one teacher, he had served as acting principal of his school for a short period of time.

In terms of his attire, John always was very casually dressed, often wearing a pair of jeans and a T-shirt to school. Possessing a very calm disposition, he appeared to be in control of what was going on around him and created the impression that there was no need to 'panic' or become unnecessarily anxious or excited about anything untoward that happened.

John felt that his school was managed very well, and as a result functioned very well. According to him, management at his school did not regard themselves as 'management' separate from the teaching staff, but tried to create a 'family' atmosphere at the school. This, in his opinion, was good for morale, as teachers were generally happy to be at the school.

5.2.2 John's school: Neon Primary

Neon primary was a former Ex-HOD school located in one of the poorer former Indian suburbs outside Durban. It had an enrolment of three hundred and thirty pupils. The teaching staff was made up of Indian teachers. Although the school was relatively small, it had classes from grade one to grade seven. Individual class units were large, with average class sizes of forty-five pupils. Pupils came from basically two race groups. About sixty percent of the pupils were Indian pupils, with the remainder being Black Africans with Sotho, isiZulu or Xhosa as mother tongue. English was the medium of instruction. About five percent of the pupils came from very poor families living in informal settlements near the school. Most of the children, although not from affluent families, had most of the basic requirements for school.

Neon primary had a pupil-feeding scheme. Disadvantaged pupils were provided with sandwiches on a daily basis. These were prepared by a local religious organization. The school encouraged children to make available their used uniforms and clothing to less fortunate pupils. The school had developed a good relationship with the local community and often had local dentists and doctors administer medical check-ups to children free of charge.

The school buildings, being only eight years old, were in excellent condition. High razor wire fencing surrounded the school. The school's electronic gates led into a huge car park. Gardens were immaculately maintained, with a just-watered look. Flowerbeds were freshly tilled. The school campus was in immaculate condition with a well-maintained sports field. On entering the foyer of the administration building, one was greeted with an appealing display of well-positioned posters, school achievement boards, and staff photographs. The foyer was spotless, with shiny floors and a shiny staircase. The school secretary was ideally positioned with a view of the school gate, which she could open electronically from where she was seated. The school was equipped with the basic necessary communication equipment, namely, a telephone, a fax machine and two computers. It did not have Internet facilities, but did have a well-equipped library. The

school regularly updated the books in the library. A library allocation was provided for in the annual school budget.

The following extract from my journal (dated 12 March 2003) depicts the kind of ethos that existed at Neon Primary:

The school secretary let me into the car park – electronic gate access. I made my way up to the admin foyer, thinking about how bright and appealing this school appeared compared to Pecan Primary's dark and gloomy foyer/reception area and dusty fields. The secretary greeted me and immediately informed the principal that I had arrived. The principal of this school always appeared to be very relaxed – always made time to stop and chat with me - enquiring about the university and 'the merger' [between the former University of Natal and University of Durban-Westville] and the status of my research project. He appeared to have his school well under control. On arrival at the school, one gets the distinct impression that this school is well managed. During teaching time it was rare to find a teacher in the staff room or children out of their classrooms. All classes were always supervised. As I walked through the school I could see teachers and pupils busily engaged in their classrooms.

5.3 HOW DID JOHN MAKE *MEANING* OF THE NEW EMS CURRICULUM?

In the initial interview, each participant was asked a range of questions ranging from questions on biography to questions that tried to establish teachers' understandings of the new EMS curriculum and their expectations of the TEMS project.

John indicated that although EMS was a new learning area, he believed that he had more knowledge about it than most teachers in other primary schools. He reflected on how he had attended a short course on consumer education about fifteen years previously. Although he could not find the actual documents from the course, he could still remember aspects of the course, which he was able to apply to his own teaching of EMS. He said that he had a 'general' idea as to what EMS was all about. The following is an extract transcribed from his initial interview:

MM¹: How would you describe your own knowledge of EMS?

¹ MM refers to myself, Murthi Maistry, as the interviewer

John: You know in terms of EMS although I'm handling it for the first time, I do believe I've got more knowledge than most teachers and I'll tell you why. Some years ago, they offered a course in consumer education and it was conducted at Springfield College and nobody wanted to go for it in the school and I looked at it and said hey this might be beneficial to me and I went and I find that most of the data that I collected there I can use now.

MM: Are you drawing on that in your teaching of EMS?

John: Ja, the only problem is I gotta look. I had this information for 15 to 20 years. I got to find them now but I do know what it was. And people like Sanlam and Absa, well it was United Bank that time, they sponsored material in terms of banking, in terms of insurance, in terms of savings, in terms of budgeting and in terms of being a good shopper. See those were the things that were covered in that consumer education. So it gave me a broad perspective as to what EMS would be.

With his everyday knowledge, together with knowledge from informal programmes that he had been exposed to, John had a basis for the teaching of EMS in his school. There is a distinct gap between everyday knowledge and the concepts and processes of formal knowledge (Taylor 1999, Muller 2000). Formal knowledge is specific to a subject and organised in a disciplined way. Later, (in Section 5.4.1) we see evidence of this gap in John's knowledge.

John projected a very positive attitude towards the new curriculum. He in fact welcomed the new curriculum and felt that it articulated with what he had already been doing in the past. He had been teaching 'life skills' at his school for many years. When he first arrived to take up his teaching post at this school, the neighbourhood had consisted of houses that were made of tin. The community had been living in 'abject poverty'. Most children left school and either looked for jobs or started their own businesses to sustain themselves and their families. Twenty years later, people who had achieved only a grade seven pass had been able to progress. He described the houses around his school as 'mansions' and identified people who had risen from being poverty stricken to becoming very affluent. He believed that the main reason for this progress was that these people were able to use their 'life skills' to progress. He identified people who were not 'good students' in school and who eventually dropped out of school, but had gone on to succeed at what they were doing. John felt that the new curriculum would help facilitate the economic development of people. He remembered people whom he regarded as not being academically superior to him at school (people who did not finish matric), but who had

gone on to become really wealthy. In John's view, the overemphasis of schools on pure academic development in the past had been a serious problem. He welcomed OBE and Curriculum 2005 as he felt that it formally introduced the aspect of teaching skills to pupils compared to the previous narrow focus on academic knowledge. He was very positive about the possibilities that the new curriculum opened up in terms of 'skills development'.

His view of his own education was that it had been very limiting. He regarded himself as not having acquired any skills besides that of teaching and said that there was 'nothing' for him to turn to if he decided to leave the teaching profession. This, according to John, was a serious flaw in the education he had been exposed to.

MM: What are your views on the new curriculum, Curriculum 2005, OBE? How do you feel about it? What do you think it will mean for your own classroom practice?

John: I think it's been a joy to me because I think for a long time I've been teaching life skills because Jacaranda² if you go into now you'll find houses like this and like this. This might be one of the small houses in Jacaranda, but when I went there every house was a tin house. People lived in abject poverty there and they left school at standard 6, grade 7 and they started looking for work. So it's, ... very few learners went onto high school. Then Waterfall Secondary³ opened at the top, so far the last 20 years we had children going up and finishing matric. So it was rare cases before the 20 years, now it's the norm the whole class goes up to high school. So in a sense, you look at the people there who didn't finish matric but they used their life skills and they became millionaires and they're still living in that area... And there are fellows who we passed in school; they are waving to me from a Mercedes or a BMW (Laughs). Ok, so what I'm saying is if we concentrate on developing the skill rather than academics, we will go a long way.

While John declared himself to be 'quite positive' in his approach to the new curriculum, he did concede that the complex jargon contained in the original curriculum document was difficult to comprehend. He explained that the new Revised National Curriculum Statement appeared to be easier to understand. Although he indicated that he was 'quite familiar' with the outcomes, in the extract that follows, it became clear that he was unable to make full sense of the economic cycle and the economic problem of scarcity and choice. John admitted that he 'seldom' referred to the curriculum document and elected to teach from his own experience as well as that of his pupils.

² Pseudonym for the area in which John's school was located.

³ Pseudonym for the secondary school John referred to.

- MM: ..., have you read the NCS document? Are you familiar with the four outcomes associated with the EMS learning area?
- John: I'm quite familiar with the outcomes. Look I'll be honest with you, the specific outcomes got me in a puzzle, you know it's too much. So now when it's been defined to just the learning outcomes, I find it more helpful, you know, I've got a focus.
- MM: Learning Outcome One says that the learner will be able to demonstrate knowledge and understanding of the economic cycle within the context of the economic problem and Learning Outcome Three says that the learner will be able to demonstrate knowledge and the ability to apply responsibly a range of managerial, consumer and financial skills.
- John: (Pauses to think) Eh, you see economic problems would be like unemployment etc. the third learning outcome is about things I already do with my children, maybe not exactly everything, but I do teach them consumer skills and management skills. I have to be honest with you; I very seldom refer to the document (meaning the new National Curriculum Statement). I try to do what I know and what is relevant to my school.

John thus revealed a limited knowledge of what the new Economic and Management Sciences learning area was about. He appeared to link EMS very strongly with 'life skills' and described EMS as a 'science' that would help children 'map out their lives'. He said that EMS teachers had to provide ideas to their pupils. These ideas should help pupils generate ideas for their own lives. Pupils, he maintained, had to be conscious about the value of money. It was important to instil in pupils the need to be successful and to have dreams and to develop ideas very early in their lives on how to achieve these dreams. He focussed his teaching on budgeting and issues around money. The passage below provides evidence of this:

- MM: How would you describe what EMS is about? If somebody says to you, " You're an EMS teacher, what's EMS all about?"
- John: I'll tell them it's one of the life skills. It is a science that a child will map out his life. Although you have HSS but EMS, the child will map out... We're giving him ideas, you know, to map out his life. He's either gonna take that baton you're giving him or he's gonna drop it. You encourage him to take it and it opens the way for him in terms of money, in terms of how he's gonna live his life. In terms of... he has dreams, all children have dreams. You give them a topic- What will you do if you win the lotto? They got the answers ready made because they thought about it. So you will find if you tell them, what will you do if you win the lotto, that's a budget. They'll work out what they're gonna do with the money and they will put so much in a bank, so much for pleasure, so much for clothes, for the house, so on and so forth.

John noted that in planning the curriculum, his school was careful to look at the needs of the school and the needs of the community. His school had conducted a needs survey to establish the needs of the school and the community. The main focus was on the needs of the learners. He said that it was crucial to keep the children occupied at all times especially in a school like his where there was a problem with discipline. According to him, no matter what subject was being planned for, the main priority was to keep the pupils occupied. This meant looking at how 'they could use their hands', possibly working in groups. They had to learn not to disturb other classes or 'get out of hand'. The focus was 'on keeping them occupied profitably'. He mentioned that there had to be many activities that had to be planned to achieve this.

MM: What kinds of issues do you talk about in your school meetings?

John: You see we look at the needs of the children, we did conduct needs surveys and we looked at the needs of the community and we do talk about issues that relate to the subject as well. But basically we look at the learner himself.

MM: ...and

John: Ja, you see if you don't keep them occupied especially in our school. We've got a discipline problem. So no matter what subject it is we must, in a meeting talk about keeping them occupied and how can they use their hands, how they can work in groups and not disturb and not get out of hand and the focus is on keeping them occupied profitably.

There must be a lot of activities.

In the final interview, John no longer made reference to the need to 'keep pupils occupied'. As extracts of the interview indicate, John was much more knowledgeable about EMS and EMS teaching. In his final interview, John showed a distinct understanding of what the economic problem was about. He revealed that as a result of working with other teachers, and engaging with the workshop material, he had developed a better understanding of the learning outcomes.

MM: In terms of the outcomes are you more familiar with the outcomes for EMS? In particular, Learning Outcome One?

John: Ja, you see meeting with other people and working with others and working with material that is not in the textbooks as such, you become more familiar with the outcomes. You know you have a better understanding, you learn the scope and depth that you have to get into and generally most of us who attended we are familiar with the outcomes now. We've learned how to apply it in a classroom. In the material we

covered in Module One we studied how...we learnt how the economic cycle worked. I think the issue of scarcity was one I did not engage my pupils with in the past. But now, I am able to relate almost anything to the problem of scarce resources and about making choices. In fact that for me it's like the crux of economics.

John went on to explain specific EMS content that could be linked to the outcomes he had engaged his pupils with:

John: You see in EMS, firstly I work with my class with communication, which is LLC, and then it leads on to living and I think nothing embodies the actual living and the day-to-day experiences than EMS. If you take away EMS they could have social skills and life skills but the actual money management they won't be able to handle once they get out into the real world. So what I'm trying to do is to bring the real world and real economics and management sciences into the classroom. Basically what I've done is that I've used practical situations. I haven't gone onto my textbook. I haven't used my textbook. I use all practical examples. I might have used the textbook last year, but this year with grade seven, it was all practical. And I was fortunate in that a lot of things fell my way.

MM: When you say practical, what do you mean?

John: For example, I took them for an excursion to the strawberry field, so we did a pre-excursion budget. What do you think, firstly, planning of the excursion, the cost of the excursion, you understand what I'm saying - the cost, the planning, the numbers, the feasibility study and so forth. The children undertook all those things and then when they came back, the task was, if you were a strawberry farmer, how would you farm. During bleak periods when strawberry production is down, how else can you make money, and the children gave me answers. They will build huts and get schools to come and stay overnight and charge them X amount. Have a restaurant, a braai area, pony rides, tractor rides, strawberry picking. So they came up with quite a few ideas. And that was by observation and then coming in with their own ideas. So that was a practical thing. So I brought in the school sports. They themselves worked out the cost of, eh, that was needed to run the sports, the cost of the prizes, the cost of the buntings, the cost of hiring the sound system, the amount of electricity that was used. You see, the hiring of the chairs, marques and so on.

John talked about the way in which he had taught a section on budgeting. He had turned the excursion into an economic problem by asking pupils to cost out the excursion by preparing a budget. Pupils were then expected to apply their knowledge of budgeting to planning for the school sports day. John introduced the issue of alternate uses of resources, about product diversification and adaptation of businesses to changing environmental factors.

Significant changes had thus occurred in John's thinking, attitude and perceptions of the EMS learning area. A comparison of his thinking, attitude and perception of EMS, *before* any significant involvement in the TEMS programme with his thinking, attitude and perceptions *after* eight months of engagement in the TEMS programme ensues. From the above discussion, we see a noticeable development in John's discourse regarding the new EMS curriculum and the way the way he made meaning of it. Profound learning had occurred for John and manifested itself in significant ways. At the commencement of the programme, John had demonstrated limited knowledge of the EMS learning area, referring to it as constituting 'Life Skills' and basic entrepreneurship. This narrow conception of EMS had changed to a more sophisticated understanding of the learning area. He was able to describe EMS in terms of its foundational concepts, namely, *scarcity*, *choice* and *the economic cycle*. He had developed insights into the scope and breadth of the learning area.

Of significance was that John no longer had to rely on his personal everyday knowledge of EMS issues as a basis for his lessons. As result of working through the Module workbooks, he had been exposed to, he had engaged with 'new' subject content knowledge of which he was able to make meaning and teach to his pupils. He had become competent at moving beyond simply using everyday knowledge and terms in an arbitrary fashion, but could apply new subject content knowledge to practical issues and phenomena that his pupils were familiar with, by establishing stronger links to the core economic problem. Prior to his experience on the TEMS project, John had demonstrated partial knowledge of the learning outcomes applicable to EMS. As the programme progressed, he became quite adept at linking the learning outcomes in meaningful and relevant ways to the various topics he chose to teach.

The above discussion provides evidence of John's changing ability to make meaning of the new EMS curriculum. In the next section we see how this had translated into classroom practice.

5.4 JOHN'S CHANGING PRACTICE

Here we begin with John's own perceptions of the changes that had taken place in his teaching. Discussion then focuses on changes that were observed in his teaching.

With respect to the learning experiences he prepared for his pupils, he believed that these had become more relevant and meaningful to both himself and his pupils. He believed he was able to make events that had taken place internationally more accessible to his pupils by linking such events to EMS in a concrete way. He felt that while the 'standards' at his school might not be the same as those of schools in more affluent areas, he had to consider the context in which he taught when planning for teaching. This is evident in the following extract:

MM: Do you find that your learners enjoy EMS?

John: My kids enjoy EMS. I think they enjoy it more than anything else now, especially since for example if I'm doing HSS and I'm discussing the war in Iraq, then we discuss the economic problems that come from that war, the cost of running that war. How does it impact on you the child? The child now will learn that their parents have to pay more for food. There's more to be paid for petrol and so on and so forth. So they know what happens in Iraq will impact on them as well eventually. So everything has to do with their life, and their future. That's how I've been using EMS.

MM: Do you find that it makes more sense to your pupils working this way?

John: It makes more sense to them and of course, I've brought it down to their level. I've seen other teacher's work and their standards may be higher because they come from more affluent areas, but in this poor area, I have to be very practical ...

John explained how access to the TEMS group of teachers had helped improve his own ability to teach EMS. He indicated that he sometimes ran out of ideas and therefore used opportunities that were presented to him. He commented on the 'information' that he had acquired with regard to teaching about money and banking. He was able to expose his pupils to the long-term benefits of saving. He also noted that his 'subject matter' knowledge of EMS had grown since he first joined the TEMS project.

John: Ja immediately we did those workshops, see now I use opportunities. I can be a bit lazy too sometimes. I used the opportunity, I got the information, I found it easy to

just transfer it. For example, banking, it was very convenient to do it in class, because I had the information with me. It's relevant. They know it's a long-term plan. They will need student loans in about six years time. How to open a bank account now and build up your bank account so that when they apply for a loan they know, the bank manager will say that this person has got this savings account for a long time and they've been saving. You know the chances are that they could have a good record. So we're putting all that into effect now with regard to banking. We make them aware of the banks closest to them, the types of banking. It went on very well, especially now when I switch to HSS and we discuss the types of early banking, the barter system, the early banks in South Africa, you know.

MM: How would you compare your current knowledge of EMS to your knowledge when you first joined the project?

John: It has certainly grown, I've learnt from the subject matter it that has been given to me, eh, sharing other ideas, I think I've learnt more.

John identified the co-operative group sessions as particularly useful for sharing ideas amongst participants and generating new ideas as well as learning from other teachers' experiences.

MM: Which specific aspects of the workshops would you say were most useful to you?

John: I think when we had our group discussions. In the group discussion, we were able to share a lot of ideas and then come up with new ideas, find out what other people were doing in their own schools, try what they are doing in their schools, in my school, and eh, in fact it was a good learning experience.

It was clear that John's *stated or claimed* changes in his classroom practice as revealed by the interviews did in fact translate into changes in his classroom practice. Classroom observations and reflection sessions were conducted at two different points during the TEMS project. For John's first lesson observation, a semi-structured observation schedule was used to guide the observation, and detailed notes were taken of the lesson. The lesson observations focussed on critical incidents that may have arisen in each lesson, especially those that may have related to ambiguities, misconceptions, confusion, attempts at clarity, and the depth of subject matter knowledge being engaged.

The section that follows begins with a discussion and comparative analysis of John's teaching *before* he began any significant engagement in the TEMS programme and then

moves to a discussion and analysis of his teaching *after* approximately eight months of participating in the programme.

5.4.1 Observation of John's teaching early in the TEMS project (12 February 2003)

5.4.1.1 A description of the lesson

John had a large room, with seating for 60 pupils. He had 54 pupils in his class. There was a large chalkboard at the front of the class and several charts (mainly English language) hung from the walls. Pupils were seated in rows.

John had planned to teach the concept 'work' to his grade seven Economic and Management Sciences class. It happened to be the week in which Valentine's Day had fallen and John decided to make use of this opportunity to get his class to make Valentine's cards and gifts.

Extract from observation report (12 February 2003):

John began the lesson in a lively fashion. He explained that in that lesson, they would proceed with the topic 'work' and he wrote the word 'work' on the board. He began by quoting a line from a song " Money, money, money in a rich man's world" and mentioned that the song implied that money meant nothing to very rich people. He described a movie in which people lit cigars using hundred dollar bills. Went on to say that "work is very important", mentioned that even the seven dwarfs left a very valuable possession and went off to work singing, "Hey ho hey ho it's off to work we go" (John actually sang this line). This brought big smiles to the children's faces.

Although John had tried to create an interesting introduction to the lesson, it was somewhat confusing. He had begun by talking about work and then proceeded to relate a song about affluent people and their disregard for money. He had then suggested that even in fairy tales, work was important. What was missing was a conceptual link between money and work.

The lesson continued with John asking several questions on the concept of 'work' and 'unemployment'. The following is an extract from this lesson

Extract from the lesson:

- John: What is work? Why do people work?
Pupil: To earn money.
John: Why do you need money?
Pupil: To buy food.
John: Yes to buy food, yes, (points to another pupil)
Pupil: Support your family.
John: Support your family.
Pupil: To build ...
John: Yes (points).
Pupil: To rent.

John began by asking what was 'work', but did not go onto establishing an answer. He moved directly on to why people work and why people need money. Responses that were accepted by the teacher were common sense constructions from everyday knowledge that did not illuminate the concept of 'work' but rather, the instrumental purposes people see in work.

- John: To rent, if you bought a house, what are you paying?
Pupil: A bond
John: Yes, a bond. So you know that it is very important to work. What happens when a person does not work? (pause - repeats the question) . What do you call it - what is that word? Yes Ashwin?
Pupil: Recession.
John: No, the word for not working (emphasises)
Pupil: Unemployed.
John: Yes ... unemployed - yes but for a short while the person collects something, what is it. For a short while after they lose their jobs, what is it, yes (points)
Pupil: Unemployment.
John: Yes, we call it unemployment but it is an unemployment benefit fund that they collect money from. So they actually pay UIF and for a short while, probably six months, I think it's gone to nine months now, they collect R250 a month. It's very very little.

John introduced the concept 'bond' and assumed that everyone understood what it meant. He did not provide an explanation or attempt to establish its meaning. The concept 'recession' crept into the answers that were being provided by pupils. John's response was simply to say 'no', without giving a reason for the inadequacy of the answer, and to repeat the question.

The concept 'unemployment' was encountered, but John did not provide a full explanation of what the concept meant, nor did he check whether pupils did in fact understand the concept. He also introduced the concept of the 'Unemployment Insurance Fund' but provided a scant explanation of how the Fund worked or why it was set up. The opportunity presented itself to discuss the issue of why unemployment benefits were available to some classes of workers and not to others, but the opportunity was not utilized.⁴

- John: Now when we talked about work, we talked about two types - paid work and unpaid work. Do you work? (Points to a pupil).
- Pupil: No.
- John: (points to another pupil) - Do you work?
- Pupil: Yes.
- John: What work do you do?
- Pupil: Schoolwork.
- John: She does school work - it *must* (emphasises) be work because every time the teachers write in your report - work harder. So if I were to write 'work harder' it means you are doing work, so you get paid work and unpaid work. (class choruses). Give me an example of unpaid work.
- Pupil: Voluntary work.
- Pupil: Librarian.
- John: (teacher smiles) Librarian? I think librarians get paid, but since your mother is a librarian (laughs) maybe she doesn't get paid - she's a voluntary worker?
- Pupil: No sir (pupil appears embarrassed).
- John: Anyone else?
- Pupil: Helping in a hospital
- John: Helping in a hospital, okay, just to cheer people up.
Ok, give me a few examples of paid professional work.
- Pupil: Teacher.
- John: Teacher.
- Pupil: Lawyer.
- John: Lawyer.
- Pupil: Class pupil.
- John: No.

Here, John failed to 'pin down' and articulate the 'economic' concept of work. He accepted the literal, everyday meaning of the term 'work' and went as far as referring to

⁴ At that time, new government legislation on unemployment insurance for domestic workers had just been passed.

schoolwork as 'economic work'. This began to create confusion when he tried to draw the distinction between paid work and unpaid work. He also failed to probe why one pupil regarded the work of a librarian as unpaid work. In response to a question asking for an example of paid professional work, a pupil answered that the work of a 'class pupil' was paid professional work. John's response was simply to say 'no', without questioning how the pupil had arrived at that answer.

The lesson continued...

Pupil: Doctor.

John: Doctor. These are people who studied for the job. And they collect a wage or salary? Yes? (points to a pupil).

Pupil: Sir, work.

John: (looks away disappointedly - then looks to another pupil - points).

Here, John received another distinctly incorrect answer – in terms of EMS - but failed to engage with the pupil on the source of confusion. The concept 'paid professional work' was introduced incidentally and was therefore not explained in a comprehensive manner. As can be seen in the extract that follows, John again did not distinguish between professional and amateur soccer and why one was considered work and the other not.

Pupil: Salary.

John: Yes, they collect a salary. Is a soccer player a worker?

Pupil: Yes.

John: Which type of soccer player?

Pupil: A professional.

John: Professional - playing for ...example?

Pupil: Manchester United.

John: (smiles) Manchester United.

Pupil: England.

John: (almost disappointed) Club man, which club?

Pupil: Liverpool.

John: These are professional clubs. People are playing sport and we call it work. They are entertainers okay. Now I got this worksheet that will cover the first part. Now I want you to do it in five minutes, number 1, 2, and 3. Right, we'll come to 4, 5 and 6 later on. Okay.
(Pupil helps to hand out worksheet).
You will see there question 1 is what is work or why do people work? - (pause) very briefly try and answer that question. Why do people work?
(Pupils work quietly).

Later on in the lesson, John compounded the confusion as he attempted to move from everyday understanding towards disciplinary understanding of Economics. Economically inactive people such as pensioners may seek to keep themselves busy by doing odd chores around the house, but in an economic sense, this cannot be considered 'economic work'. The extract below depicts this misconception.

- John: Okay, I think you get the picture. These are the dreams, a salary can satisfy your dreams. Number 5... what is unemployment? ... Yes (points)
- Pupil: When you do not have work.
- John: When you do not have... *work*. Okay number six. Let me explain that ... can anybody say I have no work? (pause and silence). Yes... I've just mentioned my father and my father-in-law, they are retired and they say every day we have to do some work. Can you say I do not have work? There's always something to do whether you earn a living or not.

The lesson proceeded with John leading pupils from a brief review of the concept 'unemployment' to the need to know how people could use opportunities to make things and 'earn a living'.

- John: Now let's go back to anyone who loses a job. We mentioned the word 'depression'. Now when a person becomes depressed, they just want to sit and stare blankly into space. How would you ... how can you advise them? What can you do to help them? (silence) What can you suggest to them? Is it the end of the world if you lose your job?
- Pupils: (mumble) -No.
- John: What is it you can do?
- Pupil: You can find a job or fix a job.
- John: Yes you can find a job. If you can't find a job then that person will continue to be depressed (points to the word on the board). He's gonna be violent. His whole attitude can change. A person who was always smiling will lose that smile. Ok but there are certain parts of the year, certain times, that they get happy ... at the end of the year we have ...
- Pupil: Christmas.
- John: Christmas.
- Pupil: New Year.
- John: New Year. Ok when else can they be happy, like the boy we have here. (Points to the pupil).
- Pupil: On his birthday.
- John: On his birthday and this week? (loudly)
- Pupil: Valentines Day.
- Pupil: (very loudly) Valentines Day.

John: Now we are not looking at this unemployed person celebrating Valentines Day. He's got no money to buy anything. But what is it using his EMS skills can he do to earn a living? What can a person do to earn a living? I want you to get into your groups and discuss it. If you want paper to record your summaries, please group leaders come and take some. I'll repeat the question. What can a person do for Valentine's Day to earn a living? Discuss this in your groups quickly.

For the remainder of the lesson, pupils worked in groups of five/six making Valentine cards and gifts, which they hoped to sell to the rest of the school later that week.

5.4.1.2 An analysis of the Economic and Management Sciences content of the lesson

The key economic concepts that John wished to expose his pupils to in the lesson were that of 'work' and 'unemployment'. It was clear that John's own misconception of the economic perspective of 'work' resulted in his presenting a literal, everyday understanding of the concept. This led to confusion amongst his pupils as to what the term really meant. John's own misconception of the concept meant that he was unable to deal adequately with correct and incorrect answers that arose in the class. Further evidence of his limited EMS knowledge and insight was his inability to identify and link the concept 'work' directly to the group task he had set, namely, the manufacture of 'Valentine cards'. Issues and concepts such as 'division of labour' and 'management' that emerged from the group task could have broadened pupils' understandings of the concept 'work'. It was clear that such issues had not occurred to John in the planning of the lesson.

The concept 'unemployment' had been dealt with superficially with a casual reference to the Unemployment Insurance Fund. John did not attempt to explain how the fund worked or why it was able to pay out only R250 a month to unemployed people. He also made no attempt to include in the discussion, people who did not belong to an unemployment insurance fund.

In dealing with both these concepts, the crux of the economic problem, that of *scarcity* and *choice* was not once alluded to. More specifically, John was able only to ascribe

literal meanings to economic terms as they related to imprecise everyday usage. He lacked the ability to explain economic concepts in any degree of depth or comprehensiveness. It appeared easier for him to ignore or 'side-step' concepts that he was unfamiliar with, and to focus on what he knew. His own lack of conceptual economic knowledge did not allow him to probe the rationale behind pupils' misconceptions. John's demonstrated 'ignorance' of the nature of the discipline and the pedagogical approach recommended to teach the discipline, namely, that EMS (economics in particular) was a discipline that had evolved out of the need to solve the economic problems of scarcity and choice, and as such necessitated an 'economic' way of thinking (see Chapter Two), best achieved by a problem-solving pedagogical approach.

5.4.1.3 An analysis of the pedagogic style of the lesson

John displayed authoritarian control of his class. He controlled all discourse in the lesson. He asked the questions, and pupils responded to him. Pupils were not provided with opportunities to raise questions, or to engage in discussions with each other. Pupil activity entailed providing brief answers to John's questions. John displayed a distinct aversion to engaging pupils on answers that he had deemed were incorrect. Although he may have communicated the fact that a response was incorrect, he did not pursue the rationale for the incorrect answers, but simply elected to proceed to the next willing pupil who could provide the answer he was looking for.

At least twenty percent of John's class comprised English second language speakers. At no point in this lesson did John attempt to solicit answers from these pupils. English second language speakers who comprised Black African pupils rarely if ever responded to the teacher's questions. John's entire lesson was conducted in English in a way that assumed all pupils had a uniform understanding of the language.

Although pupils were instructed to work in groups to make their Valentine cards, this appeared to be a manual (rather than a conceptual exercise) involving cutting up

cardboard and drawing or sticking in pictures. During the group task, English second language (ESL) speakers within mixed groups spoke freely to each other in their mother tongue.

John played a central, controlling and dominant role in the lesson. He dictated the nature of the engagement with his pupils. Verbal exchanges were short, and limited to teacher-pupil exchanges. Questions were predominantly of the type that required single word responses or the simple recall of information. Pupil activity entailed loosely structured group work. John created few opportunities for pupils to engage in meaningful reading, writing or speaking that would facilitate the understanding of the concepts he wanted to teach.

The second observation of one of John's lessons, which took place eight months later, revealed definite differences in his approach to teaching EMS. He had begun to ask more questions relating to EMS concepts and to engage with learners' understandings in a more comprehensive and meaningful way.

5.4.2 Observation of John's teaching after nine months of TEMS involvement (23 October 2003)

5.4.2.1 A description of the lesson

In this lesson John planned to teach his class the economic concept 'demand' and the construction of simple demand curves. He wanted pupils to be able to explain the relationship between price and quantity demanded, and to analyse movements along the demand curve for a normal consumer product.

Extract from second lesson observation report (23 October 2003):

John began the lesson by asking pupils to think back to the entrepreneurship day that the school had held in the previous term. He asked pupils to try to recall what they had sold and what they had charged for the items they sold. Most pupils seemed to remember and

volunteered their answers. Some children did mention that they had had to change (lower) their prices as the day proceeded. John did not take discussion on why this had happened at that point in the lesson but did say that pupils should think about why that had happened. He indicated that they would get back to that issue later in the lesson. He then changed his line of thinking and decided to pursue the issue by asking questions as to why certain people had to change their prices.

During the post lesson observation reflection session John explained that he had chosen that option because the purpose of the lesson had been to establish the price-quantity relationship embodied in the concept 'demand'. This relationship is affected by changing consumer behaviour. He indicated that from the answers he had received to his initial questions, his pupils had begun to hint at this relationship. Although he had not planned for the lesson to proceed along those lines, he had realised that it was a line of thinking that was worth pursuing in order to establish the concepts he wanted his pupils to learn. From the extracts that follow, it becomes evident that John's decision was in fact valid as he proceeded to systematically engage pupils with the price-quantity relationship that underpinned the concept 'demand'.

This was a noteworthy occurrence in that it indicated that John had developed a sufficiently deep understanding of the concept 'demand' and was able to make a thoughtful and meaningful shift in his approach to teaching the concept. He had also developed the confidence to make such an adjustment.

- John: Why do you think, Ravi and Kreolin had to change their prices?
Pupil (Ravi): Sir, we were selling spinning tops and bouncing balls and ... we had to lower our price because some other people were also selling tops. There were two other people also selling bouncing balls too. We thought we could sell at R2 a top, but they were selling at R1,50 so we had to drop our price.
- John: Okay and you Kreolin?
Pupil (Kreolin): Sir, I was the only one selling pop ups (fireworks), but in the beginning, no one wanted to buy them. I had to sell them for lower than what I bought them sir.
(class laughs)
- John: (smiles and settles the class) What did you learn from this Kreolin?
Pupil: Sir, my father said that I shouldn't have sold them just after Diwali because everyone was tired of them. If it was before Diwali, maybe I could have sold more.

John: Now I want you to remember why these two fellows had to change the prices of their products, and later I'm going to come back to them.

In this introduction to the lesson, John drew on pupils' experiences during entrepreneurship day at the school. Two important economic concepts surfaced in this introduction, namely, 'competition' and 'seasonal demand' as factors affecting the demand for a commodity. Later in the lesson, John consolidated these concepts. In the next part of the lesson, John began to engage the pupils on the question of how prices were determined.

John: Okay class, how do you think these people should have set their price? Yes (points).

Pupil: First you have to see how much you are paying for it.

John: You mean how much Ravi would have paid for the tops. What did it cost Ravi?

Pupil: Yes sir.

John: Okay Ravi, how much did you pay for the tops?

Pupil (Ravi): Sir, I think they were about R1 each; my mom bought them.

John: Okay, can you think of how we could get a good idea of what to charge for the things we want to sell?

Pupil: First see what you paid for it sir.

John: Why do you need to know this?

Pupil: Sir, if you don't know how much its cost you, how will you know how to sell it, how much to sell it for?

John: Ja. You have to know what you paid for it before you decide how much you want to sell it for. So you gotta know the *cost price*, how much it cost you, before you can decide the *selling price*. (Writes these two concepts on the board). For now, we won't discuss how to calculate the selling price, when we have Maths, we'll do some calculations and I'll show you how we can use percentages for this. But let's just leave it there for now. What else must you think about if you have to make a price for a product?

Pupil (Kreolin): Sir, I think first you must see if anyone wants to buy it first before you buy it yourself sir, otherwise it will be like my pop ups sir.

Pupil: Yes but sir, how you gonna know that?

John: Well, what do you think? How you gonna find out if someone wants your product?

(Some pupils raise their hands)

Hold on; don't answer just yet. Tell your neighbour the answer and when I ask you, you will tell me what your neighbour said. Okay quickly now.

(Pupils appeared to be familiar with this kind of exercise before - begin discussions with each other)

In the above extract John tried to establish how prices are determined. He introduced the concepts 'cost price' and 'selling price' by using pupils' understandings of these terms. He elected to discuss the mathematics aspects of calculating selling prices from cost prices using percentages, during the Mathematics lesson. He was able to make distinct links between Mathematics and EMS. John had 'forced' his pupils to engage in a discussion of the need to do market research before deciding on prices. The technique of 'forcing' pupils to speak to each other was a suggestion that came from a participant in a one of the TEMS workshops in response to teachers' concerns about the level of pupil involvement in large classes. John, with fifty-four pupils in his class, made effective use of this technique. In the discussion that ensued, the class was able to establish that there was a need to carry out some form of market research. John, however, chose not to introduce the term 'market research' at that point. In our post lesson discussions, he argued that it was not the focus of the lesson, and that introducing too many new concepts too quickly may not have been sound practice. He said that it was a concept that he would pick up on at a later stage.

In the extract that follows, John began to focus the lesson on establishing how the behaviour of a single person determined how prices were set.

- John: Let's take one person; let's take Soma as an example. Soma's friends will know that she likes to eat chips (potato chips in packet). Sometimes she doesn't bring lunch (meaning sandwiches) to school but she eats chips. About how much do you get a week for chips Soma?
- Pupil (Soma): (Rather uncomfortable to be the centre of attraction) - About R10 sir, but I don't only spend all on chips sir; I also buy other things. (Glares at a boy that giggles at her).
- Pupil: Sir, Soma needs to put on weight.
(Class laughs).
John smiles, gently cautions the boy and goes to the board and develops a table of possible quantities of chips that Soma would have bought at different prices.

John succeeded in drawing on the spending behaviour of one of his pupils to establish a pattern of purchasing that was likely to occur. He developed a table that reflected that more packets of chips would be purchased at lower prices and fewer packets at higher prices. He then went on to refer to the concept 'demand' by saying that at each price, the quantity that would be demanded would be different. The word 'quantity' was written on the board. John helped pupils brainstorm the meaning of the word, eventually coming to the conclusion that it meant the amount or the number of items.

John appeared to be much more relaxed in this lesson and tolerated and dealt with distractions in a firm yet reassuring manner. The lesson proceeded with John handing out a worksheet. The worksheet presented the definition of the term 'demand', and a demand schedule for an imaginary pupil's (Jay) demand for coke.

Extract of worksheet and lesson observation notes:

Jay receives a pocket allowance of R20 a month.

Price of a can of coke	Quantity demanded
R2	8
R3	6
R4	4
R5	3
R6	2

Questions:

1. Study Jay's demand table for Coke to help you answer the questions
 - 1.1 How many cans of coke will Jay buy in a month if the price was R2 each?
 - 1.2 How many cans will he buy if they were R4 each?
 - 1.3 Why would he buy more if the price were lower? Write a short explanation.
2. When the price of coke is low, will consumers demand a larger or smaller quantity?
3. When the price of coke is high, will consumers demand a larger or smaller quantity?
4. Try to explain the relationship between price and demand to your partner. Think about scarcity and making choices (write it down).

Pupils were allowed 10 minutes to work out their answers. John moved around the class entertaining queries (eg. meanings of the words 'consumers', 'relationship'). Most pupils needed help with q4. They appeared to understand the relationship, but struggled to write it down. After about 12-15minutes, John called for answers from the pupils. Most pupils

appeared to understand the relationship between price and demand. John provided a fuller explanation to Q4.

John was able to use pupils' responses to the questions posed on the worksheet to help pupils develop an understanding of the relationship between price and quantity demanded. Of significance was his reference to the economic concepts of 'scarcity and choice', to which he constantly drew pupils' attention.

He then went on to ask pupils to think back to the section on drawing graphs that they had recently learnt in Mathematics and Human and Social Sciences. Pupils were asked if it were possible to represent the relationship between price and quantity on a graph. Five or six pupils indicated that they could.

Extract from lesson observation report:

John then proceeded to hand out a blank graph to pairs of pupils. These were copies of the blank templates that the TEMS group had worked with during the workshops. Pupils were requested to work in pencil. Working in pairs, pupils had to plot the graph from the demand schedule for Jay. Many pupils were surprised by this move, saying that they did not know what to do or how to do it. John explained that he could show it to them, but wanted to see if they could remember by using their knowledge of graphs in Mathematics and Geography to draw the graphs. He was supportive and encouraging and indicated that it was 'fine to make a mistake'. Some pupils received John's open approach to learning and experimenting with graph drawing with some anxiety. Pupils who seemed to remember some of their knowledge of graphs began earnest discussions with their partners.

John had adapted this approach to teaching from ideas for teaching that had surfaced in the TEMS group. A similar approach was used with the TEMS teachers when this topic was dealt with.

Extract from lesson observation report:

I was quite struck by the amount of discussion this 'discomfort' of not knowing what to do but trying to do it anyway, appeared to generate. There were numerous requests for help, to which the teacher firmly, but in a supportive manner asked pupils to think through the issues themselves. He said that in the next five minutes, he was not to be asked any questions and proceeded to sit at his table. A pupil quickly enquired whether she could look

at her maths books to which the teacher replied that they could only do that after five minutes.

There was a buzz of activity from all quarters of the class. The noise levels began to rise considerably (louder than I've heard in any other lesson I've observed). The teacher seemed undisturbed by it. (I found this quite remarkable, as my experience at this school thus far had been that teachers were quite strict about high noise levels especially in their presence). As I looked around, I saw many children attempting their graphs. Some pupils were not prepared to risk their first attempts on the blank graph paper that the teacher had given to them but preferred to draw up their own for a first attempt. A few pupils simply sat and stared at their worksheet, wondering what was going on, anxious at not knowing where to start from/ what to do. After about five minutes, the teacher received a reminder from several pupils that five minutes were up and wanted to look at their maths books. The teacher allowed this, and said that he was going to give them another five minutes and that they really had to try their best, again signalling that it was okay to make a mistake - but he wanted them to at least try out the graph. He moved around the class, looking at pupils' work, but not offering comments or assistance from the now almost pleading pupils. He smiled and nodded approvingly at some of the attempts.

After about five minutes John called the pupils to attention. There was much quiet moaning amongst the pupils. He explained that sometimes it was good for them to work out things for themselves and mentioned that he had seen some interesting graphs as he walked around. He then drew a blank graph on the board (X and Y axes) and began by asking pupils where point zero would appear on the graph. All pupils appeared to agree that it was at the point where the axes met. He asked pupils if they could remember what the vertical axis was called, explaining and indicating which one was the vertical axis. He did the same for the horizontal axis thus establishing X and Y-axes.

He then referred to the demand schedule pointing to the fact that the table had two columns and that each column could be represented on a separate axis. He explained that to draw the graph for Jay's demand for coke, the Y-axis would be used for 'price' (P) and the X-axis for quantity (Q) and proceeded to label the 'axes' price and 'quantity'. He proceeded to calibrate the vertical axis in multiples of R2 from zero to R10, and the X-axis in multiples of two going up to twenty. By then, many pupils had stopped looking at the board and were busy studying their own graphs.

John wanted to proceed, but could sense a quiet buzz (pupils whispering to each other about their graphs). At this point the teacher stopped his explanation and asked whether the class wanted to proceed on their own. Several pupils eagerly wanted to try it on their own, while some did not. A few did not respond but looked around at other pupils and the teacher. He looked around and at his watch and decided to allow pupils to proceed to plot the graph on their own. Again there was some protesting from some pupils who appeared uncertain. John walked around and helped individuals.

The lesson proceeded with John constructing the demand curve on the board. He reviewed the demand table and consolidated the relationship between price and quantity demanded by revising the questions that were set in the worksheet. He emphasised that Jay's demand curve explained how Jay would behave when prices changed. John presented another worksheet that extended the example that pupils were working with.

The worksheet contained the following questions:

1. What do you think would happen if the price of Pepsi decreased to R2 a can? Will this affect Jay's demand for Coke?
2. What would happen if Jay only received half his monthly pocket money?
3. What would happen if Jay's pocket money were doubled?
4. Do you think that Jay will buy the same quantity of Coke in summer as he would in winter?

Although John presented this as an individual task, pupils still engaged in discussions with each other.

In this part of the lesson, John attempted to introduce the factors that were likely to influence the quantity demanded for a product. This tied in with the opening discussion on the effects of competition on quantity demanded and prices. It also allowed pupils to consider the effect of changes in income on quantity demanded and the issue of seasonal demand.

5.4.2.2 An analysis of the Economic and Management Sciences content of the lesson

Consumer demand and demand curves was a topic covered in the TEMS programme, and readings were provided to the TEMS teachers that would have enabled them to consolidate and extend their understandings of the theory behind the concept 'demand'. It was evident that John had in fact studied the supplementary material well and was quite comfortable in dealing with the subject matter. This was in contrast to the first lesson where John appeared to provide 'surface' explanations of the concepts he taught. He was able to easily draw on pupils' experiences to introduce the new concepts that he wanted his pupils to learn. The relationship between price and quantity was clearly established.

In the post lesson reflection, John explained that he had identified possible avenues in which he could extend on the lesson that he had taught. These included dealing with factors that affect demand, such as competition and seasonal demand (raised at the beginning of the lesson). John was able to identify distinct links between EMS and Mathematics (cost price and selling price calculations) and Human and Social Sciences learning areas and had programmed lessons accordingly. He was also able to draw on skills pupils learnt in Mathematics and HSS with regard to drawing of graphs and calibrating axes. Of particular note in this lesson was John's continuous linking of new material to the economic problem of scarcity and choice.

5.4.2.3 An analysis of the pedagogic style of the lesson

A significant development in John's teaching approach was the increased level of productive pupil involvement in this lesson. This was in stark contrast to his lesson earlier in the year. This was yet another manifestation of the paramount importance of pedagogical content knowledge that teachers in the TEMS project continuously alluded to. In the post observation reflection session, he explained that he was trying to move away from how he had been teaching in the past, where he was the source of all information and 'spoon-fed' his pupils. He mentioned that he had read the transcript of his first lesson several times and was 'shocked' at how 'teacher centred' his first lesson was, and how often he had simply 'repeated' pupils' responses to his questions. He indicated that he was making a deliberate attempt to get his pupils involved in meaningful activity even though pupils initially resisted working on their own and struggled to deal with the uncertainty of not knowing all that was needed immediately. Evidence in the transcript and the lesson observation report confirms John's reading of his pupils' response to his changed approach to teaching them.

John had developed confidence in his knowledge of EMS. He had also developed the ability to adjust to the changing dynamics in his class as and when change happened. This was evident when John made a distinct and spontaneous change in response to events and

issues that his pupils were raising in his lesson. He was also able to clearly motivate the reasons for his altered course of action in his lesson.

An area of his teaching, in which John had made a notable shift, was his questioning style. John had begun to vary the type of questions he posed to his learners. Questions with different levels of complexity became a feature of his lesson. This was evidenced in the lesson transcript and the worksheet that he compiled. The quality of John's worksheet had changed to become more focussed and directed towards achieving the purpose of the lesson.

The next section provides a summary of the key differences between John's teaching practice *before* his involvement in the TEMS programme and *after* eight months of participation in the TEMS programme.

5.4.3 A summary of the key differences between John’s teaching practice *before* his involvement in the TEMS programme and *after* eight months of participation in the TEMS programme

Table 5.1: Key differences in John’s practice

Key characteristics of his classroom practice <i>before</i> participation in TEMS	Key characteristics of his classroom practice <i>after</i> participation TEMS
Poor subject content knowledge	Displayed significant subject content knowledge
Inability to relate everyday economic phenomena to EMS and EMS teaching in a meaningful way	Had developed an economics perspective – ability to identify and make sense of economics in everyday phenomena
Lessons built on potentially misleading everyday understandings of economic phenomena	Lessons developed with an understanding of the concepts of the discipline
Tight locus of control with regard to what and how learning took place (as a result of insecurity related to inadequate EMS knowledge)	Improved knowledge enabled a more dispersed ‘rein’ on how and what was learnt. Ability to exploit opportunities that arose to enhance pupils’ understanding of EMS
Inadequate subject content knowledge resulted in stifled interactions with pupils	Improved knowledge facilitated freer and more purposeful interchange with pupils
Unfamiliar with the nature of the discipline and its associated pedagogical approach	Had begun to engage in a pedagogical approach that articulated with the nature of the discipline
Limited meaningful questioning – little or no attention paid to levels of questions asked and with seemingly little awareness of how these might contribute to learners’ conceptual development	Significantly improved questioning technique testing higher order thinking skills
Inability to probe incorrect responses – dismissive – preferred to ‘side-step’ the unknown	Confidence to engage with incorrect responses – tolerant and supportive – comfortable with uncertainty and confident in his ability to direct responses towards more correct positions
Insular approach to content and its boundaries	Easily identifies opportunities for integration across learning areas
Limited opportunities to engage pupils in reading, writing and speaking	Opportunities for reading, writing and speaking leading to conceptual development in EMS
Fairly rigid approach to lesson planning and presentation – lesson proceeded rigidly according to plan	Made critical and valid shifts during the course of the lesson, making the most of learning opportunities as they arose – had developed a deep enough understanding of subject content knowledge to do so.
Poor subject matter knowledge resulted in misconception and confusion of concepts	Logical, sequential development of concepts – increasing complexity

5.5 JOHN'S CHANGING PROFESSIONAL *IDENTITY*

John's involvement in TEMS project had enhanced his status and image in his school. He noted that the principal and staff held him in high esteem and relied on him to provide feedback to the school. He had begun to play a bigger role in his school's staff development initiatives and was looked to for leadership, especially in EMS development. He felt that the leading role that he had played in the TEMS project had earned him the respect of his colleagues at school. He said that running a workshop or making a presentation at a regional forum like the TEMS project was a step up from running a workshop at school level. This was evidenced in the following extract from John's final interview.

- MM: Do you find that your participation in the workshops and the leadership role that you played has influenced your relationship with other staff members and the principal?
- John: Yes, I think so. They look upon me differently; they know that I'm bringing a lot of information and relevant information to school. They expect me to conduct workshops, to pass information on to others. When teachers and principals and heads of departments know that teachers are presenting workshops outside the school, they respect you more. In school, it's one of those things, that everybody can do it in school, but if it needs to be done outside school, then many teachers are reluctant to do it. So the fact that you have done it, I think they show you more respect.

In the following extract from the initial interview, John explained that he was a new EMS teacher and that other teachers in his school were more experienced at teaching EMS as they had taught the learning area previously.

- John: In school we've got a, what you call a Learning Area Committee. It is actually a support group. If I have an idea, I will share it. The other teachers obviously got more experience than me. They've been carrying their classes now for grade 4,5,6,7. Now they're going back to 4. You see, this is my....., we were the first lot, last lot actually that went through the old system and starting OBE. We started OBE this year.
- MM: And what grade are you teaching?
- John: Grade 7. So last year they were just the ordinary subject teaching, 6 subjects.
- MM: So are you a first time EMS teacher at your school?

John: Ja, they have taught EMS before, you see this was the last lot. They were EMS teachers, now the teachers doing grade 6 had taught it before me, she taught it in grade 4,5.

It was particularly significant to note that as a result of his involvement in the TEMS project, he was playing an increasing role in EMS development at his school. He was in fact being expected to lead EMS development in his school despite the fact that in comparison to the other EMS teachers, he was less experienced.

John had begun to receive increased recognition from his principal who described him as a teacher worthy of promotion. The principal's acknowledgement of John's contribution to his school is captured in the following extract from my journal.

Extract from my journal (17 October 2003)

Went to see John briefly today to drop off material he had requested. The principal who was present invited me into his office to have a chat. He was very welcoming and even offered me a sandwich that he had brought from home. I politely declined the sandwich but accepted the cup of tea. Also introduced me to his new secretary and asked her to allow me into the school whenever I needed to see John. ... Enquired about the progress of the project and about John. Said that he had immense respect for John who had become a loyal 'servant' of the school both as a lead teacher and in terms of his extra curricular involvement. Described John as a 'senior man' who deserved to be promoted.

Later in the final interview John explained how the TEMS project had given him the opportunity to express himself and refine his skills at speaking in a public forum. John made a significant comment about not having to 'know all the answers', indicating that having that perspective as a presenter took the 'pressure' off him. In the post interview discussion, John explained that he did not feel insecure about not knowing something and that he could rely on his colleagues to help make meaning of what might not be clear to him. This was an important change in John's identity as a member of a supportive community. He went on to explain how he successfully encouraged his colleagues to become more involved in TEMS activities. Here, John's learning in this community had enabled him to become a motivator and supportive peer, genuinely interested in the development of his colleagues. He had begun to demonstrate accountability for the development of his fellow TEMS teachers and had begun to create opportunities for them

to achieve their joint enterprise of personal and professional development through the process of mutual engagement in the activities of the TEMS programme.

MM: How do you see the role of the presenters- including yourself, the other teachers, me?

John: You see its about giving everyone an opportunity, that's one and two, even though a teacher is a public figure, a person who should be able to get in front and talk, even then they do get nervous, so giving them an opportunity to come in from and present these topics. I think I've become sharper at presenting, thinking on my feet. For me I think I learnt that I don't have to know all the answers. It makes you see things differently, no pressure. You may have noticed that some people were reluctant, and ask me to present saying John you do this, you do this, so I tell them, if tomorrow you go for an interview, you must be able to face people and talk, and you will notice, even though I have now and then have come up and made a presentation, there were others in the group who have come up as well. You see, every one gets an opportunity. Its helps them in being public figures. It helps them to talk to large groups of people. It helps them get over their nervousness. So it's many fold, its more than just developing EMS knowledge, it's about personal development involved here.

During the reflection session on John's second lesson observation, he explained how a former colleague who had been promoted to principal at a school in another region, had invited him (John) to present an EMS workshop at his school. He described how his former colleague had heard that he (John) was the 'local fundi'⁵ in EMS. He noted that he had previously not regarded himself as an EMS teacher. In the past he had been regarded as a teacher of English, but in recent times he had been associated more strongly with EMS and EMS curriculum development. John began to speak with a lot more confidence about his changing ability and status as a lead teacher in EMS development. This was in contrast to the first interview in which he regarded himself as having no skills and suggested that if he had left teaching, there was nothing he could do.

Extract from first interview:

John: Well, look at me for example, I never developed any skills, as a teacher now, and if I have to leave teaching there's nothing for me. What can I do?

⁵ Meaning 'local expert'

From John's final interview, it could be seen that he had significantly changed his perception of himself. He spoke with more enthusiasm about his work as a teacher and suggested insightful ideas on how the TEMS project should proceed in the future. He referred to EMS as a 'dynamic subject'. While he suggested the need to develop a learning programme for a year, he also emphasised the need for flexibility to include the effect of current economic phenomena as and when there were significant changes. He spoke with a passion about keeping track of the exchange rate and interest rates and the need to address such issues when they become topical. This was evident in the following extract from the final interview:

MM: Do you have any suggestions about the future of the programme?

John: I think one of the things we can do is, eh, you see we've gone past the first stage where we've learnt about the subject, and we've come up with some content, subject matter. The next stage is to work on work programmes for the year, for all grades, you know, for - groups working out a year plan, to groups working out study routes, groups working on worksheets. So you know a three-tier system where we have three different groups and you ... eh, we'll have the complete lessons done so for the next three years we know we have enough subject matter and of course it has to be reviewed on a regular basis, because this is a dynamic subject. It changes from time to time and so even though you plan, there must be a scope for review every month or two months and then we meet once a year to find out how successful it is. So I feel we need to concentrate on building lesson plans, you know, specific lesson plans. And then of course you cannot work for the year. You have to leave aside some time for events that happen where you must just take off the news and even if you've planned you must just use the information from the news for example, the rand has crashed. So that's a lesson now. Even though you have planned, that's news. It has to be done in class. So in fact that's what I've been doing quite often. With the rand-dollar exchange rate dropping, I mean that's part of my lesson every other day. We make a note of how far it has dropped. We've talked of the repo rate, we've talked of the bond rate.

5.6 JOHN'S INCREASED PARTICIPATION IN TEMS *COMMUNITY* AND HIS ALIGNMENT TO OTHER COMMUNITIES

From the previous discussions, we identified John's shifting practices with regard to the way he related to his pupils (i.e. his classroom community). He had also made substantial strides in 'reconstructing' himself as a leader in EMS curriculum development in his school and within the regional teaching fraternity. John also began to talk about and make meaning of his changing ability with regard EMS and EMS teaching.

John had begun increasingly to align himself to the TEMS community and to a range of other communities. He had begun to see the work of the TEMS community as an enterprise worth pursuing, as evidenced in his networking with other social configurations.

Extract from final interview:

MM: Have you made contacts with teachers from other schools?
John: You see most of these teachers I know for a very long time, we either meet on sports fields, at union meetings, at socials, so this is like, I met a teacher from XX School at the sports track events. Her first question to me was "When's the next workshop?". You see now, so everyone is keen, when I mean everyone, these are the devoted teachers. There are some who came and probably felt that the route we have taken won't work at their school and so on, but those who are in this group seem to have enjoyed the programme.

Here John explained how teachers who had previously identified him with other activities had begun to enquire from him about developments in the TEMS programme. John identified with and had taken 'ownership' of the TEMS project. He defended the programme by suggesting that those teachers to whom the programme did not appeal had left while teachers (himself included) who had elected to remain had in fact benefited. This further demonstrated his alignment to the project and the TEMS teachers. In response to a question (final interview) on whether he had been influenced by other TEMS teachers, John commented as follows:

John: Yes, like I said before, they have made me see what I've been doing in a new light... I'm also the head of the English committee in the area. This is also under discussion in English. I've drawn up schemes of work etc. and I've actually left scope in LLC to show them how to integrate EMS and HSS into that subject. So we've taken some of our ideas into other committees, the ideas are filtering down.

John described how the Department of Education had tried to contrive groupings of teachers to promote curriculum development in the region. There had reportedly been much resistance from teachers. Teachers felt that such a grouping ought to be have been initiated by teachers themselves according to their needs. John mentioned that because he had been outspoken about this issue at a meeting, he felt that he had been overlooked for promotion. He indicated that his participation in the TEMS project was voluntary, and had arisen out of the need to acquire information about the learning area.

John had thus eventually become a lead teacher in the TEMS project and had volunteered to co-organise and run three of the TEMS workshops in the second half of 2003.

The extract below highlights John's dissatisfaction with the procedures that the Department of Education applied in setting up teacher development initiatives:

Extract from initial interview:

MM: What are your views on this group and the project that we've started? Have you been part of such a group before?

John: I have but not in this learning area. I think I put down some of the CELL groups before we had OBE, in that we were *ordered* to have the CELL groups. I said *no*, let it come from us, from our needs and after two meetings I see everything fell. (Meaning that the initiative did not succeed) Unfortunately my name is minuted there as the person who moved that we don't like this top down approach. Let it come from the bottom. And I think I was held back for that because I saw the signature. I don't know if you know of him, Mr XX, a late Mr XX, an inspector.

MM: This kind of programme of workshop we're trying to put together... how do you see that? Do you also see that as a top down kind of thing or...

John: No, I went there voluntarily. Nobody pushed me to go to it and I needed information. I needed to find out what other teachers are doing because eventually we might come to setting common papers.

John regarded the close interaction of teachers in the TEMS project as crucial for the development of teachers. He suggested that it had allowed the work of the group to be more 'focussed'. It also allowed for greater continuity and flow since each new session did not have to be preceded by 'ice breakers' for teachers to begin engagement with each other. TEMS teachers had become familiar with each other and the schools in which they taught. He contrasted this with other workshops that he had attended in the past.

Extract from final interview:

MM: How is this programme different from any other INSET or department run programmes? Is there a difference?

John: There is a difference. I think here there is greater interaction. You see here, because we seem to know each other, but if you go to the department workshop, you generally don't know most of the people there. And the interaction is not as good as it was here. So what I'm saying is that this is more focussed. If you have bigger, larger groupings then interaction won't be so great. Then you have to have things like icebreakers sessions to get to know each other. See we are talking here, we tend to know each other's school; we know each other's background. We know the children in the school, so it's easier for us to talk about these issues.

Earlier John had explained how he had been invited by a principal in another region to deliver a workshop on EMS and EMS teaching. From this we see John's distinct changing alignment to various communities. He had extended his 'professional community' to include teachers from outside his region, teachers from the TEMS project, teachers and pupils within his school, in his own class, and teachers of other learning areas. John's networks had widened considerably. This extended networking and participation in the TEMS project and beyond illustrates John's increasing confidence and competence as an EMS teacher and a learner in the TEMS project.

5.7 A COMPOSITE PICTURE OF JOHN'S LEARNING

Using Wenger's four components of learning, namely, *meaning*, *practice*, *identity* and *community*, the table below depicts a summary of the key areas of change with respect to John. Although all the four components are linked in intricate and complex ways, *meaning* and *practice* (representing subject content and pedagogy) have been grouped, as

they are closely related and mutually informing. Similarly, *identity* and *community* are also closely related and are grouped under one heading. The table is designed to present and compare aspects of John's learning *before* participation in the TEMS programme and *after* eleven months of involvement in TEMS activities.

Table 5.2: A composite representation of John's learning

BEFORE (PRE-TEMS)	AFTER (POST-TEMS)
<u>Meaning and Practice</u>	<u>Meaning and Practice</u>
Poor subject content knowledge	Had developed significant subject content knowledge
Intimidated by complex jargon of C2005 as it applied to EMS	More confident in the use and application of C2005 discourse and EMS discourse
Limited knowledge of basic tenets of economics (economic problem), namely, scarcity, choice and the economic cycle	Had developed insight into the economic problem and was able to identify and relate various topics to the economic problem.
Narrow perception of EMS as constituting Life Skills and basic Entrepreneurship	More knowledgeable of the breadth and scope of EMS as a discipline.
Focussed on keeping pupils occupied to prevent indiscipline - stifled discussions	Able to plan more meaningful pupil activity aimed at achieving EMS learning outcomes using EMS concepts – and more learner centred
Lessons built on everyday understanding of economic phenomena	Lessons developed with an understanding of the concepts of the discipline
Limited meaningful questioning – little or no attention paid to levels of questions asked - Inability to probe incorrect responses	Improved questioning - testing EMS conceptual skills - Confidence to engage with incorrect responses
Insular approach to content and its boundaries	Easily identified opportunities for integration across learning areas
<u>Identity and Community</u>	<u>Identity and community</u>
Low self esteem – regarded himself as unskilled	Confident - identified skills recently developed
Identified himself as a Language teacher – recognised by school as such	Identified himself strongly with EMS – began to lead EMS development at his school and wider EMS community
Limited recognition for involvement in school and wider teaching community	Earned the respect of school management and colleagues and wider teaching community – broadened networks
Concerned with day-to-day survival	Long-term plans for the future of EMS development in the region.
Limited involvement in the learning of colleagues	Began to take an interest in, encourage and create opportunities for colleagues' learning
Peripheral membership of TEMS	Core member – active participation and leadership in TEMS

As stated earlier, because the 'confidence' did not emerge as a significant factor for all participants in this study, it was not pursued and analysed. The concept of 'confidence' as mastery introduced as a possible fifth component of learning by Graven (2002) does however have some significance for John in particular. John did in fact attest to being more confident in terms of his subject content knowledge, his ability to practice as an EMS teacher, his newfound confidence in his identity and confidence in understanding his role in his community.

In order to understand the factors that may have contributed to John's development as an individual within the TEMS community and the wider school community, I draw on the constructs developed by Bourdieu (1986), namely economic capital, social capital and cultural capital. Economic capital refers to one's command over economic resources such as assets (including cash). Social capital refers to resources based on group membership, relationships, networks of influence and support available to an individual. It is a personal asset that provides real advantages to individuals in its possession as it allows access to actual or potential social resources. Cultural capital refers to forms of knowledge, skill, education or any advantage that an individual has that may give her a higher status in society. This includes having high expectations, developed attitudes and knowledge that supports and facilitates (educational) success and success in society in general. Cultural capital includes an individual's character and way of thinking that has been developed as a result of a particular socialisation. It could also include the possession of certain cultural assets and educational qualifications.

In terms of economic capital, John appeared to be more favourably positioned than most of the other participants. He had been teaching for twenty-three years, had built a house and owned a vehicle. While John's economic status cannot be described as 'affluent' he appeared to have a relatively comfortable lifestyle that allowed him, for example, to utilise personal time and financial resources to engage in the various activities that he was involved in. For other participants in this study, this was not the case. Often, the lack of means (vehicle) or financial resources impeded participants' ability to fully engage in and benefit from the activities of the community.

In analysing John's possession of social capital and its influence on his development, it became clear that his prior experience and history of having been a member of other networks and groups, the established relationships that he had nurtured in, for example, his Mathematics community, and his ability to garner support from key individuals of influence (principal and other school management personnel) augured well for optimal participation in the TEMS community. As compared to other participants, John appeared to be in a relatively advantaged position.

In terms of John's cultural capital, he was distinctly 'advantaged' as compared to other participants in that he had in the past, involved himself in various professional development initiatives and had acquired various forms of knowledge and skills. This existing knowledge held him in good stead when the TEMS grouping presented itself. John had high expectations and had developed an orientation to the kinds of activities typical of workshops and seminars. This appeared to facilitate his success in the TEMS community. John came from a cultural community (family background) that appeared to have shaped his character and way of thinking in a manner that enhanced his chances of success.

John's distinct difference with respect to economic, social and cultural capital appeared to be compelling factors that influenced John's significant individual progress in the TEMS community.

5.8 CONCLUSION

This chapter set up a narrative vignette of John. Wenger's four-component social learning theory was used to analyse John's data set (Wenger 1998). The phenomena that emerged from the vignette of John supported the situated nature of teacher learning. The data suggests that the process that enables teacher learning is about access to and participation in a learning community. Wenger's four components of learning, namely, *meaning*, *practice*, *identity* and *community* constituted essential elements of John's learning.

A detailed description of the context in which John worked was provided as a prelude to the analysis. Section 5.3 illustrated how John was able to talk about and make meaning of the new EMS learning area. It explained John's changing understanding and ability to experience the new EMS learning area as meaningful. In section 5.4 of the vignette, we saw how John was able to apply his changing understanding of the EMS learning area to his own classroom practice. It also showed how John's deeper understanding of EMS content knowledge as well as his pedagogical content knowledge had substantially changed his approach to teaching this learning area. Section 5.5 illustrated how John's learning had changed his sense of professional identity and had helped him create a reputation of being a leader in EMS curriculum development within his school and beyond. Section 5.6 illustrated John's learning in relation to his alignment to a range of communities. This section also emphasised John's strong alignment to the TEMS project and how his increased participation in a range of extended communities was recognised as competence. Section 5.7 provided a composite picture of John's learning in tabular form and proceeded to analyse his personal development as it was influenced by his possession of economic, social and cultural capital.

As stated earlier, the case of one teacher (John) had been selected for an in-depth analysis of the nature of teacher learning in the TEMS community in order to provide the basis for theorizing the frame for the data analysis in the following two chapters. In order to establish the validity for this choice, John's experience must be located within the broader sample of teachers who formed part of the TEMS experience. The next two chapters locate John's story within the broader sample of teachers. I proceed to make use of the larger sample of teachers to elucidate the nature of teacher learning in the TEMS community.

CHAPTER SIX

USING WENGER'S CONSTRUCTS AS TOOLS FOR ANALYSING TEACHER LEARNING IN THE TEMS COMMUNITY

6.1 INTRODUCTION

Chapter Five presented an analysis of one teacher's learning using Wenger's framework so as to provide an 'ideal type' basis for theorizing the frame for the data analysis in this and the next chapter. A detailed discussion of Wenger's framework was provided in Chapter Four.

Graven (2002) concurs that Wenger's model offers a useful structure with which to proceed with analysing the phenomenon under study, namely, the nature of teacher learning in a community of practice. It would appear to be a 'natural' choice to proceed to analyse teacher learning in terms of the four constitutive constructs of learning that Wenger suggests, namely, meaning, practice, identity and community (Wenger 1998). However, attempting to analyse and represent the data that emerged from the study presented particular challenges. Decisions had to be made as to whether each individual participant's story should be represented in a separate chapter, similar to that of the previous chapter or, should participants be grouped and analysed as a 'unit' and data analysed and presented as that of 'one' homogenous teacher or, should each of Wenger's four components be represented in separate chapters, but analysed across all participants? This was a tricky decision as Wenger reminds us that the four elements of learning are 'deeply interconnected and mutually defining' (ibid.:5). With reference to the model (see Figure 3.1), Wenger notes that even if one were to displace any of the four elements with learning and position the displaced component in the centre, the model will still make good sense. He argues that the model's 'analytical power' resides in its ability to integrate the components (ibid.:6).

In deciding on a strategy that would most effectively address the data analysis and presentation challenge, given the complexity of the Wenger framework, the work of Graven (2002) proved to be invaluable. Following Graven (2002), an analysis is provided in terms of each component separately, noting, however, that each component is inextricably linked to every other component in a complex fashion (as reflected in vignette of John and the data analysis in this and the next chapter). This is therefore not an attempt to disaggregate the complex phenomenon of teacher learning but is rather a considered strategy aimed at generating a feasible structure and a practical framework for the analysis (ibid.).

This chapter has three main sections dedicated to establishing the nature of teacher learning in terms of the first three components respectively, namely, *meaning*, *practice*, and *identity*. In each section, I explore and analyse the nature of teacher learning in terms of a particular component by analysing evidence from narrative vignettes, quotations and extracts of the data.

The fourth component of learning, namely, *community* is discussed in Chapter Seven.

The structure of the chapter is as follows:

In **Section One**, the focus is on **'meaning'** that is, **'learning as experience'**. I illustrate the changing 'experience' (changing ability) of the TEMS research participants with regard to EMS and EMS teaching.

In **Section Two**, the focus is on **'practice'** that is, **'learning as doing'** and a discussion of shifts in teachers' practice is provided. This section focuses on teacher learning across the participants. It explores how biographies, career trajectories and local school contexts influenced the development of teachers and their practice.

In **Section Three**, I examine teacher learning in terms of **'identity'**, that is, **'learning as becoming'**. I explore how teachers' changing participation and teacher learning shaped and created personal histories of 'becoming' in the TEMS learning community

6.2 SECTION ONE

AN ANALYSIS OF TEACHER LEARNING USING WENGER'S CONSTRUCT 'MEANING': LEARNING AS EXPERIENCE

Teacher biographies and their impact on the implementation of the new EMS curriculum in the classroom, and the effect that the contexts in which teachers worked have on teacher learning is central to this study. It is for these reasons that the following tabular biographical profile of the participating teachers is provided.

Table 6.1: Biographical profile of the TEMS research participants

Participant	Race	Age	No. of years teaching	Grade taught	Qualification	Post level	School
John	Indian	44	21	7	National Teachers Diploma	L1	Peri-urban (EX-HOD)
Mary	Indian	47	25	4	National Teachers Diploma	Deputy Head (Acting)	Township (EX-HOD)
Ben	African	46	19	6	Senior Teaching Certificate	L1	Semi-rural (EX-DET)
Kim	Indian	54	25	4	National Teachers Diploma	L1	Township (EX-HOD)
Shirley	Indian	28	8	5	Bachelor of Arts Higher Diploma in Education	L1	Township (EX-HOD)
Beth	African	33	6	4	Bachelor of Arts Higher Diploma in Education	L1	Semi-rural (EX-DET)
Debbie	Indian	39	15	7	Bachelor of Education (Honours)	L1	Township (EX-HOD)

6.2.1 Teachers' emerging attitudes and dispositions

In this section, I explain and analyse teachers' *changing attitudes* towards the new curriculum using evidence from transcripts presented. I locate teachers' shifting attitudes on a continuum, ranging from 'very positive' to 'very negative' attitudes towards the new curriculum at two points in the TEMS programme, namely, in the early stages of the programme, and again after ten months into the programme.

The following table summarises teachers' attitudes towards the new curriculum *before* involvement in the TEMS programme and *after* approximately ten months of participation in the programme.

Table 6.2: Teachers' changing attitudes towards the new curriculum

Teachers' attitudes towards the new curriculum										
	Before					After				
	Negative	Mildly negative	Neutral	Guardedly positive	Very positive	Negative	Mildly negative	Neutral	Guardedly positive	Very positive
John					X					X
Mary	X								X	
Ben	X								X	
Kim	X								X	
Shirley	X							X		
Beth				X						X
Debbie	X								X	

It became evident that teachers' understanding and their ability to make meaning of the new curriculum, in particular the new EMS curriculum, had occurred. Teacher learning *had* in fact taken place and this could be observed from the changing ways that teachers had begun to talk about and make meaning of the new EMS curriculum. They had begun to experience the new EMS curriculum as meaningful. Evidence of this changing understanding is provided in the extracts from interview reports and lesson observation reports.

It must be remembered that the conception and birth of the TEMS community was a direct result of the introduction of Curriculum 2005 in the primary schools. EMS, a completely new learning area, had become a compulsory part of the primary school curriculum. Teachers (without a commerce qualification or background) had literally been deployed (by school management) to teach this learning area.

From a comparison of interview data and post interview reflection sessions of the initial and final interviews, and from ongoing dialogue with each teacher, it became evident that teacher learning had occurred, but in varying degrees for different teachers. Teachers also presented negative or mixed perceptions of the new curriculum and Outcomes-based education (OBE). In contrast to John's positive reception of C2005 and OBE (see Chapter Five), other teachers expressed ambivalence, anxiety and even contempt towards the new curriculum.¹ A selection of teachers' views on the new curriculum is captured in the extracts below.

Shirley: initial interview

MM: What are your views on curriculum 2005 and OBE? What has been your experience?

Shirley: It should be thrown in the bin. You get the high flyers that are bored you get so many different... let's say the traditional way I felt was far better when you are standing there and you are teaching them and they are understanding the work. OBE, the practicality of the work, they are not

¹ It should be noted that teachers used the terms 'Curriculum 2005 and 'OBE' as if they were synonymous.

understanding it at all. I just don't think that OBE is working and I don't think that it's going to work. I think they should have married 90% of the traditional way and 10% of OBE. You cannot do OBE 100%. It's totally difficult.

From the above extract we see that Shirley, a teacher who had been teaching for eight years, had little regard for the potential of C2005.

Mary, another teacher with twenty-four years of teaching experience, expressed her reservations about OBE in the following comment: (Initial interview)

Mary: I'll be honest, in that like, OBE, I started like two years ago because I took the first lot of grade fours and my basic problem that I've found with OBE was getting away from actually teaching children the basic skills. Now when we inherit them from junior primary to senior primary, we have the problem of reading. We have the problem of them writing. We had the problem of them actually setting out work and all that because what happened with OBE.... They were doing like less writing I would say and that became a problem.... So I'm saying that maybe I'm found wanting, you know...

Beth, a teacher in a semi-rural area reflected on C2005 and OBE as follows:

Beth: I can say that I like Curriculum 2005 because it helps us as educators, to help creative learners. Learners who think critically, not learners who are passive like us. Sometimes we were so passive in our days. The teacher would just teach... We were so passive but these learners, they are fortunate because in Curriculum 2005 really. They know if we work as a group, one is the helper, one is the speaker, one is the mover, blah, blah, blah. So it makes teaching in the indoor classroom very easy. Most of the work goes to the learner... But you have to do most of the talking all the time as an educator. They just come up, just give them the work and they just do it.

She went on to describe her colleagues' perceptions (at her school) and the context in which her own learning was taking place.

Beth: But since, it's not all of us who really appreciate Curriculum 2005. I'm not working alone in my grade so I'm happy but other educators really; they find it so hard. What can I say? I can say that some of them, they resist to change so it's...make sure... you know, you feel that we just wish that all of us here could just enjoy and then be familiar with the outcomes but each one they've said no, you are in the field. We've been here for 20 years; this thing is not going anywhere. So then you are discouraged by that.

Here Beth explained the difficult circumstances under which she had to teach, citing the lack of support from teachers within her school for the new curriculum. She described teachers' resistance to the new curriculum and negative perceptions thereof. Harley and Wedekind (2004) posit that teacher support for C2005 is uneven and stems from support for C2005 as a 'political project', that is, its ability to deliver equity and redress. They refer to the anomalous situation in which teachers indicate support for C2005, yet do not have a good understanding of it.

It was interesting to note that Beth could identify with, and support, the intentions of C2005, that is the need to develop 'active' learners. She contrasted this with her own school experience in which she was a 'passive' learner. She could articulate the process that could unfold for group work but as will be discussed later, her subject matter knowledge of EMS stifled her ability to teach EMS in the way she wanted. However, Beth remained guardedly positive about the new curriculum.

Teachers' understandings and meanings are closely linked to their thinking, attitudes and perceptions. In terms of teachers' thinking, attitudes and perceptions regarding the new curriculum, the vignettes indicate that there was a distinct sense amongst teachers, that the new curriculum was not working in their classrooms and that there were several flaws that they had identified, such as the overemphasis on practical work at the expense of learning reading and writing skills. Beth in particular was able to embrace one of the design principles of the new curriculum, namely, that of learner centeredness. While she could manipulate her teaching to embrace the form (of learner centredness), she was unable to come to terms with the substance of this design principle.² With the exception of John and Beth, it was clear that teachers had developed negative perceptions of the new curriculum. The discussion that follows reveals how teachers had shifted in terms of their thinking, attitudes and perceptions of the new curriculum after their involvement in the TEMS.

² Brodie, Lelliot and Davis (2002) refer to this as the tension between form and substance in learner centred practice.

In the final interview that took place approximately ten months later, teachers' understandings and attitudes towards Curriculum 2005 and the new EMS curriculum in particular had changed in varying degrees. Beth described how her approach to teaching had changed since she joined the TEMS project. (Extract from final interview)

- MM: Having attended these workshops, are there any changes in the way you teach? What are you doing differently now? Have you used the materials?
- Beth: Yes, you know I. Ja there is a big change. Eh, when I began teaching EMS, I just narrated, I just narrated but now I'm no more narrating to the learners. I can just tell them, class today I want them to learn about needs and wants so I'm going to give you these newspapers. I want you to cut down, I want you to cut from these newspapers pictures for me and then I want you to paste them under the column needs or wants. But its much better that I'm no more narrating a lot. I just give as much of the work to the learners and they just respond so well. So that is the big change for me.
I use the materials we made at the workshops and the learners they just grasp them easily. Much of the work goes to the learners. It's not like when I started and used to narrate and then being passive you know because I myself did not know what to do so the best way for me was just to narrate to them. But now it's more practical ...so it's not like when I had to narrate to talk. I no more do a lot of talking.

Beth explained how she was able to use the pedagogic content knowledge that she had acquired through the TEMS programme to teach EMS to her pupils. She noted that she no longer 'narrated' her EMS lessons but tried to develop lessons that allowed for more pupil engagement. Beth's thinking, attitude and perception of the new curriculum had changed from being guardedly positive towards becoming enthusiastic and very positive.

Shirley had initially shown little or no confidence in the new curriculum. While she may not have been completely convinced of its merits, she later appeared to have changed her attitude towards C2005 and OBE. She no longer harboured open resentment towards the new curriculum and had shifted from having been distinctly negative about the new curriculum. While she appeared to be not quite ready to overtly support the C2005, she chose to adopt a somewhat 'neutral' perspective when discussing her attitudes and perceptions of C2005.

Extract from final interview: Shirley

- MM: What are your views on the new curriculum?
Shirley: You know, I used to be very negative about OBE and the learning areas. I won't say that I've completely changed my view, but I have seen some advantages. You know before this, I hadn't been to any OBE workshops. Even the one I attended, I didn't take it seriously. So what I'm saying is basically I didn't know much about it, but you know, you hear the stories about how it's not working. I think after coming to the workshops and listening to how other people are adapting to it I feel a lot better. It's not so bad (laughs). I'm actually trying out some of the OBE ideas. I won't say they all worked. No. But at least I know more about EMS now (laughs).

Like Beth and Shirley, the other research participants had also displayed changes in their thinking, attitudes and perceptions with respect to the new curriculum. For some teachers, the shifts in attitude were distinct, moving from being openly negative, towards becoming guardedly positive, while other teachers experienced less significant shifts.

6.2.2 Teachers' shifting conceptions of the EMS learning area

In this section, I analyse teachers' shifting *conceptions and understandings* of the EMS learning area by examining their understandings early in the TEMS programme and after ten months into the programme. I attempt to categorise teachers' understandings on a continuum ranging from 'very weak' to 'substantially developed' understandings (see table 6.3 below).

In initial interviews, teachers stated unreservedly and unashamedly that they knew very little about the new EMS learning area or how to teach it, expressing much insecurity and apprehension. In response to a question about her knowledge of outcomes applicable to the EMS learning area, Shirley responded as follows in her initial interview:

- MM: Are you familiar with the four outcomes associated with the EMS learning area?
Shirley: No.
MM: So, is it new to you?
Shirley: Ja, all new to me. Completely new, because it's the first time I'm teaching OBE. So when I'm writing a prep for the next day, I have to go and read the

learning outcomes and read the info, adapt in my head and then plan my lesson. That's what I have to do. (sounding irritable)

MM: Having read the outcomes, what do you understand by learning outcome one which says that the learner will be able to demonstrate knowledge and understanding of the economic cycle within the context of the economic problem and learning outcome three says that the learner will be able to demonstrate knowledge and the ability to apply responsibly a range of managerial, consumer and financial skills. What do you think this means?

Shirley: You know, although I read them, I don't exactly understand some of the terms. Even some of the other teachers don't even know what they mean.

She went on to remark that she had little knowledge of the EMS learning area and that she had received little support from the provincial department-run OBE workshops. It appeared as if struggling teachers turned to each other for a measure of support and reassurance.

Extract from Shirley's initial interview:

Shirley: I'm being honest. I don't have much knowledge of EMS. This is the first time I'm teaching it so what I do is I run to JJ's class and I ask her to help me. I didn't have any knowledge of it. I didn't know what it was. And when I went to the OBE workshop, they didn't do much with us. They just gave us a handout about what is EMS and we had to read that on our own. So I had basically the grade seven teachers that helped me with EMS this year. And now that I am attending your workshops, I'm getting insight. I didn't know a thing.

When questioned as to what she thought the EMS learning area was about, Shirley referred to the EMS learning area as knowing how to budget one's money. She was unable to take this very limited notion of EMS any further at that point, indicating that she had to learn more about it. In an extract from Shirley's initial interview she expressed her desperation:

MM: If someone were to ask you, as an EMS teacher, how would you describe what EMS is all about, what would you say?

Shirley: In a nutshell, EMS is about how to budget your money. And if they want a further explanation, then I have to sit and think about it and work on it. As I say it was totally new. It still is new to me, because this is the third month that I am doing it. I'll have to find my way as to what it is before I can give

a constructive answer as to what EMS is. See me one year from today and I'll be fine.

To be honest with you I feel like I am drowning because EMS is new. HSS is fine, I majored in History, so its fine. I know what's happening there. But to tie up HSS with EMS in that lesson, I need help with that to be honest. I can't keep running to the other teachers.

Mary, having taught for twenty-four years commented on her knowledge of the outcomes applicable to EMS as follows:

Extract from initial interview: Mary

Mary: Trying to (understand the outcomes), I won't say I'm into it. Honestly, I think because I come from the old school, I actually don't look at the outcomes too much. When I plan a lesson, I have in my mind at the end of the day; this is what my children must achieve.... If they've learned something related to that programme, I feel happy, you know. Everything is successful but quite honestly I hardly look at those specific outcomes.

Mary had clearly not engaged with the most recent policy document. She still referred to terms that existed in the first version of C2005, namely, 'specific outcomes'. This term had been changed to being called 'learning outcomes'. She went on to declare:

Extract from initial interview: Mary

Mary: I must be honest I'm finding my way. I'm really but basically, okay I started my grade four's you know and the basics of how you would spend your pocket money and how you would save and uh.... You know their needs and wants. Very basic, related to their own experience.

Her perspective of EMS stemmed from the basic entrepreneurship morning that she had arranged for her pupils. She noted:

Extract from initial interview: Mary

Mary: I think because EMS is concentrating towards fields for entrepreneurship ... a programme where the child is given experiences of looking at what type of things they can do eventually to become a successful entrepreneur. I think

the little things like we started in school, like making their gift boxes, making their gift packets, making their chocolates on an occasion.

Beth described her knowledge and experience of EMS as follows:

Extract of initial interview: Beth

MM: Ok, how would you describe your knowledge of EMS?

Beth: As far as EMS is concerned, umm there's a lot that I've learnt when I was asked to take EMS. I don't have an economic background. Even at school I did not learn Business Economics. I was in general. My subjects were History, Biology, Biblical Studies and 3 languages: Zulu, English and Afrikaans. So I attended a workshop in OBE. Then EMS was explained, things about the economy and so forth. And then when we came back, we had to work out the workload and then EMS was given to me. Well I can say that I've learnt a lot, even to make a budget. Sometimes we fail to budget. To learn to live within your means and then you find that I've got to teach these learners that, so that they won't fall in the trap... So that I enjoy it anyway.

Beth felt that she since she was nominated to teach EMS at her school, she had learnt more about the learning area. She had attended one workshop (arranged by the Department of Education), in which basic EMS information had been provided. Although she did not have an economic background either from her school or university studies, she appeared to have a positive attitude towards the learning area. Beth revealed her lack of understanding in her response to the question on the EMS learning outcomes. She responded by referring to specific outcomes, suggesting that they were 'made by learners', an indication of her confusion about the relationship between critical outcomes and learning outcomes.

Beth: Ja well the S.O., specific outcomes, mmm, although I can say that, they're made by learners. They need to make and negotiate meaning. I think it's the S.O.'s that most of our learners, they are familiar with and they just know what we really need to do.

In the post interview reflection, Beth conceded that she 'hardly ever' read the outcomes and did not know what they meant. The following is her interpretation of what the EMS learning area was about.

Beth: Ok, it's about economy and it's about our needs and our wants and how to also to learn to live within our means, how to budget, make budgets and so forth. This is what I can say.

In response to how EMS should be taught and how pupils best learnt EMS, teachers responses included: 'do more practical stuff'; 'get them to do things'; 'work in groups' 'hands on'; 'It's not like I talk; you listen type of thing' and 'you want them to cut things'. Teachers associated EMS with the need to do and make things. This could be explained by teachers' perceptions that the learning area was concerned with entrepreneurship and the need to make and sell things.

In response to the usefulness of the workshops run by the Department of Education, teachers expressed mixed sentiments that ranged from not having benefited at all to being quite appreciative of having received at least *some* information, even if it had been from only one workshop.

Reflecting on the transcripts above, it is clear that teachers' understandings and conceptions of the EMS learning area were indeed very weak. When 'pushed' for a perspective on what the EMS learning area was about, all teachers displayed distinctively narrow and limited conceptions of the learning area. Their everyday understandings of EMS concepts that they referred to were also suspect. Attempts at describing the learning area and the outcomes associated with it, revealed very weak understandings thereof. In attempting to categorise teachers' understandings and conceptions, all teachers, except John could be categorised as having weak understandings and conceptions of the EMS learning area. John, as described in Chapter Five, was able to draw on his everyday or lay understandings of EMS, albeit in a limited way. Teachers' poor knowledge of the EMS learning area can be attributed to the fact that none of them had any formal or informal qualification in any commerce related discipline. Secondly, their negative experiences with the learning area and their negative perceptions of C2005 and its complex jargon were telling factors that hindered their access to the curriculum policy documents. Thirdly, the lack of support from the Department of Education meant that professional development in the EMS learning area was severely lacking. In terms of their

understandings and conceptions of the EMS learning area, then, teachers in this study, in the early stages of the TEMS programme, were firmly located at the 'negative' end of the understanding continuum (see Table 6.3 below).

In the *final interview* that took place approximately ten months later, teachers' understandings of the EMS learning area had shifted significantly, as can be seen in the transcripts below. Teachers had progressed along the 'understandings continuum' from having very weak understandings of the learning area towards increasingly developed understandings.

Extract from Beth's final interview:

MM: Tell me; are you familiar with the outcomes in EMS? Do you know what the first learning outcome means. I'll read it to you. Learning outcome one says that the learner will be able to demonstrate knowledge and understanding of the economic cycle within the context of the economic problem.

Beth: Ja, definitely. Before I didn't know what the economic problem was but now I know. I know about the scarcity problem and the economic cycle. You see, I've done it with my children.

MM: Do you use the document? (RNCS policy document for EMS).

Beth: Yes, I use the document. You know that you can't do without the document. - the document, the new one I find it much easier. Even with the children, they just respond so well. Ja, by just having the documents in class everyday.

Beth went on to explain how what she had learnt in the workshops also assisted her in her personal life. She mentioned the concepts of 'needs' and 'wants', and talked of the need to 'prioritise' (make choices) given that one's income was limited. The next extract (from Beth's final interview) reflects this:

Beth: ... as far as budgeting is concerned also you are teaching them, the learners, about needs and wants, and then it also teaches them to prioritise things, and to say okay, I need this thing and this must come first, this is how we prioritise things and also it applies to myself that I need to learn about budgeting because sometimes we find that we are workers and when it comes to budgeting, we fail to budget, or you may find that we have not enough money, and in that way I found it very useful to me and also to my learners as well.

In the next extract, Beth described how her knowledge of EMS had changed since joining the TEMS project. She also described the effect that her improved knowledge had had on her pupils.

- MM: How would you compare your knowledge of EMS now to your knowledge of the learning area at the beginning of the year? Is there a difference?
- Beth: Yes (very emphatically). Yes there's much difference. When I had to teach EMS at the beginning of the year, really I was not, I must admit because I must be honest with you it was not clear for me, but, and there even some things I did not know and for me I was thinking I'm just going to skip this thing. I'll see maybe at the end of the year maybe just because me, I did not know what to do you know, so, by attending the workshops really I think it has helped a lot. I just ask for help and somebody is ready to help me. There's been a big change even my learners; they are just enjoying EMS now. And eh, we've discussed with the learners that eh since they know their home situations eh, that some parents are not working and other parents are working but they don't get enough money. At least they must try to do something. And then others came to me and said mam, you really helped me. On Saturday I asked my aunt to teach me how to make vetkoeks. Now I'm making vetkoeks and selling vetkoeks. I no more ask my mother to buy you know, underwears for me or Vaseline or roll-ons. You know some of our girls you know that they are at that stage. Now I just take the money to buy a roll on for me for myself and things like that, but now as we are teaching them to run your own business, now they are really, now they are just appreciate. You can even see them. There is much change in the learners, in the way they don't depend to their parents. Some, they say, I'm selling sweets I selling brooms, you the brooms there. Yes even mats, if you want mats, you find some of the learners are making mats and selling them.

In the above extract it is clear that as a result of being a part of the TEMS, Beth had made a significant shift in her understanding of the learning area, moving well beyond 'everyday understandings' or even 'partial understandings' towards significantly 'developing understandings' of the learning area and the fundamental concepts associated with it.

In Mary's final interview, she explained how her knowledge of EMS had changed since joining the TEMS project.

Extract from Mary's final interview:

Mary: You know for a teacher who is just starting to teach EMS, like I've gained knowledge eh, skills as well, different ideas that we shared while we were there, the little projects, you know the presentations that we did. We could see that how one aspect could be interpreted by different groups differently and how new ideas came out and how you would look at it from different perspectives. And I would say I got a lot of direction in my teaching of EMS. Ja, I feel more confident. I see myself taking my children through stages. Perhaps I would honestly admit that that I ... at the beginning, having not so much knowledge of the subject itself was just doing little things- little bits here and there. But like now it's more constructive. And there is more direction, even for the child.

It is noticeable here that Mary's teaching had been fragmented in the past. She indicated that she had a lot more 'direction' in her teaching. She regarded her teaching as being more 'constructive'. In the extract below, she explained how she had begun to write her own EMS case studies and how other teachers in her school had started using a similar approach to teaching EMS. She felt that she was providing more opportunities for her pupils to 'read,' 'criticise' and give their 'opinions'. Mary's shifting understanding of the EMS learning area was significant. She had moved from having a distinctively 'weak understanding' towards a rapidly 'developing understanding' of the learning area. This was evident in that she was able to harness her language and writing skills to compile cognitively challenging case studies that illuminated economic phenomena and concepts that she wanted her pupils to learn.

Mary: Yes - I find that with EMS, I learnt how to write my own stories, my case studies and other teachers are beginning to catch on. - and the children are enjoying it as well. Where in the past, where we just spilled out information, the child is now given a chance to read, criticise, give his opinion - like there is a shift, most definitely.

Shirley's changed attitude and knowledge of EMS is reflected in the next extract.

Extract from final interview: Shirley

MM: If you were to compare your current knowledge of EMS to your knowledge at the beginning of the year, is there a difference?

Shirley: Phew! What a question. Of course there's a difference. I was in the dark. But now, I have something to work from. I've got my EMS file. It's looking

impressive, all the notes, worksheets, preps and everything we did in the workshops. In fact other people are coming to me for things (laughs). I won't say I know everything in the file, but for next year, I'll be much better off. There's so many things that you don't take notice of in business and commerce, but I now, I see examples everywhere, like in banks, shops, adverts, sports, even funerals (laughs). It's all business you know. Like we said in the workshops, look for the cycle, look for the cycle!

Significant here is that other teachers in her school were beginning to access *her* resource file. This was a marked change from her initial interview in which she commented “I can't keep running to other teachers”. She conceded that she did not have a full understanding of everything in her file, but went on to explain how she was able to relate daily experiences to commerce. Of particular significance was her reference to the economic cycle and her ability to see its workings in daily commercial activities. Here we see distinct evidence of Shirley's changed understanding of the EMS learning area. In his model for the classification of mathematics discourse Dowling (1998) introduced the concept of 'mathematical gaze'. He argued that if a person acquired proficiency in the esoteric domain (that is, an understanding of mathematical principles at a highly abstract level), then such an individual was likely to begin to observe mathematics in everyday life. A similar phenomenon was reported by Graven (2002) where some teachers in her study had developed a mathematical gaze as a result of learning in a community of practice. With regard to Shirley, while one can argue that she had begun to develop an economic perspective that allowed her to make strong links between economic theory and concepts that she had learnt and the environment, she had not attained a level of competence in the disciplines of economics or management to warrant describing her behaviour in terms of the concept 'gaze' as espoused by Dowling (Dowling 1998). She had however, shifted beyond 'everyday understandings' of economic phenomena towards a 'developing understanding' of the EMS learning area. While Shirley appeared modest and guarded about her understanding of the EMS learning area, my sense was that she had certainly shifted from an initial position of a 'very weak understanding' of the EMS learning area towards a position of 'developing understanding'.

The following table presents an aggregate picture of teachers' changing understandings of the EMS learning area. While learning had occurred for all teachers, the extent of teachers' changing understandings of the EMS learning area varied.

Table 6.3: Teachers' changing conceptions/understanding of the EMS learning area

Teachers' changing conceptions/understanding of the EMS learning area										
	Before					After				
	Very weak understanding	Lay/everyday understanding	Partial understanding	Developing understanding	Substantially developed understanding	Very weak understanding	Lay/everyday understanding	Partial understanding	Developing understanding	Substantially developed understanding
John		X								X
Mary	X								X	
Ben	X							X		
Kim	X								X	
Shirley	X								X	
Beth	X								X	
Debbie	X									X

6.2.3 A Synopsis of teachers' changing 'experience'

In the above sections, I attempted to analyse and categorise teachers' attitudes towards, and perceptions of, the new curriculum as well as their conceptions of the EMS learning area. From the transcripts, it was evident that all teachers expressed changing attitudes towards the new curriculum, and changing ways of talking about it. Teachers had shifted in varying degrees from being overtly 'negative' towards developing 'guardedly positive' and 'very positive' attitudes towards the new curriculum.

Teachers were able to describe the new EMS curriculum in more practical ways and could articulate benefits they had identified. While some degree of uncertainty still existed, these uncertainties were not as pronounced as compared to sentiments expressed at the initial interviews. With regard to teachers' understandings of the EMS learning area, it was evident that teachers had experienced definite albeit varying shifts in their understandings, ranging from 'very weak' understandings to 'developing understandings' and 'substantially developed understandings'. This was largely as a result of their participation and involvement in the work of the TEMS project, their willingness to try out ideas that had emerged in the TEMS workshops, and their regular reflections and sharing of experiences.

The next section addresses teachers' learning in terms of their changing EMS practice.

6.3 SECTION TWO

AN ANALYSIS OF TEACHER LEARNING USING WENGER'S CONSTRUCT 'PRACTICE': LEARNING AS DOING

6.3.1 Introduction

This component of teacher learning deals with teachers' changing practice. Wenger's conception of 'practice' with regard to teacher learning would entail what teachers did so as to perform their jobs as EMS teachers. It is clear that teachers' work constitutes more than teaching in the classroom. It entails participation in a range of activities that could include committee meetings, making presentations, discussions with parents, and so on. In terms of The Norms and Standards for Teacher Education, teachers were expected to be learning mediators, interpreters and designers of learning programmes, leaders, administrators and managers, scholars, researchers and lifelong learners, play a community, citizen and pastoral role, and be learning area/phase specialists.

This section provides an analysis of teachers' changing practices in relation to EMS teaching by focussing the discussion on the learning of two teachers, Ben and Debbie. These two teachers presented the greatest differences on the learning continuum (specifically with regard to their *practice*), with Ben having made the smallest shift and Debbie having made the greatest movement. Their personal histories, teaching contexts and career trajectories appeared to be important factors that shaped the way in which they responded to the TEMS programme and it was for these reasons that they were selected for analysis.

In attempting to explain teachers' changing practice, I present evidence of shifts with regard to teachers' '*content knowledge*', '*pedagogical content knowledge*', '*questioning and rapport*', the level of '*pupil involvement*' and '*teaching resources*' employed by teachers. To guide the analysis, I examine these categorisations in terms of their being '*good/substantially present*', '*developing/adequate*', '*partial/scant/inadequate*' or '*weak/poor/non-existent*' (see Table 6.5 below).

In the narrative vignettes of both teachers, it becomes evident that teacher biographies, career trajectories and other contextual factors interact to affect the nature of teacher learning, in particular, their ability to make meaning of the new EMS curriculum and their dispositions towards their EMS classroom practice. A composite picture of teachers' learning for all TEMS research participants is presented in Table 6.4.

The essential differences between Debbie and Ben are captured in the following table.

Table 6.4: Essential difference between Debbie and Ben

Ben	Debbie
Lacked self -esteem	Self confident
Felt the need to please bureaucratic superiors (especially the principal)	Self motivated – needed to satisfy her own professional standards
Insecure tenure – Job insecurity	Secure in her work position
Under qualified	Post graduate – intended further study
Unstable teaching career – exited previously, returned to temporary employment	Stable teaching career – no plans to exit the profession
Financially unstable – without salary for 3-4 months at a time	Financially stable
Authoritarian teaching approach – focus on rules, rituals and behaviour (rigid)	Friendly, warm, caring (open, flexible) relationship with learners
Written records regarded as unimportant, secondary, Minimal planning	Meticulous records, attention to detail, Comprehensive planning
Not accountable to anyone in terms of records of curriculum, plans and assessment	Regularly accountable to school management (all aspects of curriculum planning and assessment)

In the following narrative vignettes of Debbie and Ben, I analyse both teachers' changing ways of talking about and making meaning of the new EMS curriculum and their changing classroom practice. Extracts from initial and final interviews, lesson observation reports and my journal are used to develop each vignette.

6.3.2 A narrative vignette of Debbie

Debbie was an Indian teacher in her late thirties. She had completed her formal teaching degree at a local university and had proceeded to complete an honours degree in education. She was seriously contemplating enrolling for a Masters degree at the local University. Having been teaching at her school for 15 years, she felt that she had a good relationship with her colleagues and with members of management, and generally looked forward to going to school. She felt that the type of pupils that one taught also determined

how one's work as a teacher played itself out. In comparing her current class to her previous class, she noted that about half of her current class had low levels of motivation and had to be constantly reminded about their work ethic. This to her was a serious challenge that often left her quite frustrated. Many of her pupils came from very poor homes and often came to school without the basic necessities. She said that OBE required that pupils have at least the bare necessities, and this created a problem with the poorer children who did not have their own rulers, glue or scissors.

She noted that the physical condition of the school had been in a poor state during her first few years at the school. Although it had improved in recent years, she felt that it was still inferior to what was available at ex-model C schools. The school management team together with the school governing body organised regular fundraising activities. A plan to improve the physical facilities of the school had been put in place. Debbie had confidence in her school management team. She regarded them as 'strong' and 'excellent', and supportive of the teachers at the school. Although class sizes were large, teachers were able to cope because of the support they received from management.

According to Debbie, the influence of her primary school teacher had taught her the value of developing relationships with children by establishing rapport and motivating them. She had learned that it was important to win the friendship and trust of pupils, as this was one way in which a teacher could get maximum cooperation from pupils. She noted that her own pupils regularly commented on her friendly and caring approach to teaching them. While she did not encourage her pupils to compare her to other teachers, pupils would often make comparisons and commented positively on her attitude towards them.

She had decided to become a teacher from a very early age, having interacted with her aunt and uncle who were teachers. As a child, she often modelled their behaviour and had set her mind on becoming a teacher. She had no regrets about choosing teaching as a profession and had not considered leaving the profession despite what she termed the 'turmoil' that education had gone through in the recent past.

Debbie's school, Eden Primary was located in a former Indian township in the Greater Durban area. It serviced children from a poor socio-economic area. Because pupils generally came from very deprived backgrounds, most children usually came to school without basic equipment like rulers, pencils and other necessary stationery. High unemployment and poverty manifested itself in numerous social problems which teachers had to contend with on a daily basis. The following extract from my journal (16 August 2003) reflects the kinds of problems that teachers had to contend with.

While waiting to have a talk with Debbie, I noticed an angry parent storm into Debbie's class, violently threaten a pupil in the Debbie's presence, then storm out. The parent snapped at the teachers who had come out to see what the commotion was all about. Debbie explained that it was a particularly rude parent who had difficulty complying with the school rules. The teachers present were upset that the parent was allowed access to the classroom instead of the matter being dealt with in the principal's office.

The school was more than thirty years old. It had a roll of about eight hundred and fifty pupils, with a teacher pupil ratio of about 1: 40. More than ninety percent of the pupils were Indian with the remainder being Black African. The principal appeared proud of the fact that while other schools in the neighbourhood had experienced significant changes to the racial composition of the student body, his school had managed to keep the intake of Black children to under ten percent. According to the principal, while neighbouring schools struggled to maintain their enrolment figures from year to year, this school had developed a good reputation, managing to attract 'quality' pupils (Indian) at all grades. This was one way in which this school was able to maintain a predominantly Indian school population.

The school's physical facilities were adequately maintained. In recent years, however, the school had experienced incessant incidents of vandalism and theft by outsiders. Alcoholics and drug addicts also used the school (classrooms and toilets) as a venue for their activities and would trash the place when they left. A full-time security guard had been appointed. Every classroom was barricaded with heavy-duty burglar bars on doors and windows. With the additional precautions and the support of the community, the principal felt that the situation had improved.

A well-organised and well functioning library operated at this school. Although no computers were available to school pupils, the acquisition of computers was in the school's long-term plan. The principal and school secretary had access to the school's two computers.

The principal and the management team had a tight rein on the functioning of the school. Teachers were expected to submit their record books (preparation files, assessment files, daily planners and pupils' books) to management for scrutiny on a weekly basis. Curriculum planning took place well in advance. Term plans for forthcoming terms had to be submitted to the management team for approval. The principal placed much emphasis on maintaining a good work ethic and accountability on the part of both teachers and pupils.

6.3.3 Teachers' perceptions of their changing EMS practices: How had Debbie experienced change?

In the discussion that follows, I analyse teachers' perceptions of their changing EMS practices with reference to evidence regarding what teachers reported about their teaching practice.

In the initial interview, Debbie described the difficulties she had in trying out group work activities in her class, and how disruptive pupils tended to make such lessons extremely difficult to manage. She felt that the constraints of the context in which she operated militated against conducting lessons with pupil activity. Her frustrations are evident in this extract from her initial interview:

Debbie: Ok with the OBE now you want that pupil activity, you want that group work. Now you try to have that group work and then you find that, you know what, this one child is 'creating' here (meaning causing a disruption). Right, another child...like yesterday was a true example. I've got, I'm gonna mention, a black child in my class who is arrogant, absolutely arrogant. Now if I talk or if I reprimand him, he speaks back in Zulu, maybe swearing me or whatever. Now because we are not so free with the language, we don't know

what he's saying. And in that lesson like there's no...he just cares two hoots. He will just get up and hit another child because that child showed him a face and something like that. Now how do you work in a class, you know what I'm trying to say. You got children of all different calibres. How do you sort it out or how do you let your lesson progress? Imagine if I had an EMS lesson planned according to how I wanted it to go, but in the classroom situation it won't. It definitely won't. It won't go according to how you planned it.

Debbie's inability to communicate in the mother tongue of some of her pupils proved to be a major stumbling block to building relations between her and the non-English mother tongue pupils. Debbie raised this issue at the TEMS group and received much support and advice from other teachers. She went on to explain how she struggled with group tasks:

Extract from initial interview:

Debbie: If you put them in groups and I don't go and start that discussion or lead them or even if you lead them on, after that it falls flat. They're sitting and looking. It's just one in that few that will do what you want them to do. And one good example is I told you I'm doing that Market Day. That research thing, such a simple thing. I gave them everything to do. Now if get 50% that don't do it, how is your activity gonna be a success? I'm being very honest and as much as I try, you know, you can break your head. Just the 50% or so, 40% will work. The rest are not interested.

Debbie expressed several difficulties that she experienced in getting pupils to sustain group discussions. She felt that she had provided what was required of the research task, but still did not achieve complete success with her pupils. In the initial interview Debbie described her knowledge of EMS as follows:

Debbie: Well, I'll say good but I'm still trying to get, you know, I'm still learning because it's a fairly new learning area. So I won't say that it's excellent and I'm still reading, trying to get familiar with the subject matter... I have to do a lot of my own reading and learning before I plan the lesson and actually teach.

She acknowledged that she was still learning the subject matter in the EMS learning area and noted that she had to read and study the material before she could teach it to her pupils. Debbie did not express any doubts that she could learn the 'subject matter' in the

EMS learning area. She appeared to be confident in her ability to do so. Her attitude towards embracing new EMS knowledge can be attributed to the fact that she was an Honours graduate who was contemplating Masters study. She had a history of ongoing learning.

From the above extracts taken from Debbie's initial interview, we see that Debbie, like Shirley in the previous section, had attempted group work. Group work is often equated with learner centeredness, one of the design features of Curriculum 2005. Debbie appeared to struggle with this approach. The issue of adopting the 'form' of learner centredness without adequate 'substance' also presented as a problem for this new EMS teacher. While Debbie may have regarded her knowledge of EMS as 'good' in the initial interview, an analysis of her utterances and the first observation of her lesson revealed partial or inadequate subject content knowledge and pedagogical content knowledge of EMS.

In the final interview, Debbie had the following to say about her changed classroom practice. From the transcripts it becomes evident that Debbie's content knowledge and pedagogic content knowledge had changed significantly. She also ascribed her development to increased participation in the TEMS community and the support of the TEMS community members.

Extract from Debbie's final interview:

MM: ...What changes if any, have you experienced in your classroom practice over the past months?

Debbie: Oh, I've really begun to look at my teaching differently. I tell you, for the past 15 years, I've basically been working on my own. Only in my first year, you know the old EX-HOD system, when first years had to be confirmed before we became permanent; that was the only time that anyone had really helped me with my teaching. Although we had subject meetings, at the end of the day, you do your own thing, you basically struggle away on your own. I think, in the workshops, listening to how others approach topics, and all that stuff we did on group work, questioning and assessment really helped me look at my teaching differently now. There's so much, there's so much more now, so many different ideas and ways, you know. Like that handout on using research as a teaching tool and also the problem solving method, I thought

they were excellent, really good. I'm getting brave now, I'm trying them out. It's not easy, lot of prep but it's making my teaching much more enjoyable.

In the above extract Debbie described how in the past her teaching endeavour had been largely an individual pursuit apart from when she was to be confirmed as a permanent teacher in her first year of teaching. Even though school subject committee meetings had taken place in the past, teaching was still very much a private matter that individual teachers had to negotiate themselves, an issue Delamont (2002) describes as the 'privacy' of the teacher's role, suggesting that classrooms are essentially private places. Debbie noted, however, that the different pedagogical issues discussed in the TEMS workshops had helped her approach her teaching differently, and that she had become 'brave' and was beginning to try out different approaches to teaching.

In response to how knowledge of EMS had changed, Debbie described her learning in the following way:

Debbie: I never did commerce at school or on campus (meaning university). I think I should have. So many things are starting to make so much more sense to me now. You know I love to read, but I never really read like economic news, it didn't appeal to me. Now when I open the newspaper, I look for the articles that talk about business and the economy, like the...reading of the budget, trade. I even explain to my husband why the petrol price goes up every month (laughs). My knowledge of how the economy works, the cycle, what's inflation, exchange rates ... I can talk about all of this now. When teachers complain about paying taxes and where's the money going, I tell them to look at the charts we (meaning her class) made on my classroom wall. So what I'm saying is I'm learning a lot and I want to learn more for *myself* as well.

Of all the teachers in the TEMS group, Debbie appeared to be the person who had made the most significant shift in terms of developing the content knowledge of the learning area. She took her readings seriously and appeared to get much pleasure from developing and deepening her understanding of economic phenomena, often raising questions and asking for clarity in the TEMS workshops. The newspaper presented a new appeal to Debbie. Having developed sufficient knowledge, she was able to explain movements in the fuel price and had also developed a better understanding of concepts like inflation and the working of the economic cycle. Debbie's last comment suggests that she was keen to acquire more knowledge about EMS content knowledge not only to be able to teach the

learning area, but for her own personal development. The effect of Debbie's quest for more content knowledge and her changing ability to experience EMS and EMS teaching as meaningful, could be seen in her changing practice discussed below. The extracts above indicate a definite shift in Debbie's ability to make meaning of the new EMS learning area. Her content knowledge and pedagogical content knowledge had certainly improved substantially. She had moved from having had a 'partial or scant knowledge' of EMS and economic phenomena to what can be described as more than an adequate knowledge of the learning area (see Table 6.5 on page 247).

In the extracts below, I provide evidence of Debbie's evolving practice by analysing the extent of her changing *content knowledge*, *pedagogical content knowledge*, her *questioning skills* and *rapport* with her pupils and the *teaching resources* that she employed in her lessons.

6.3.3.1 Observation of Debbie's teaching early in the TEMS project

The following extract from the lesson observation report describes the context in which Debbie's teaching took place.

Many pupils in Debbie's class were very poor. Some pupils had very old uniforms, some not looking clean (unwashed, not ironed); some pupils' hair was unkempt, oily/greasy. White socks were discoloured, shirt buttons and dress buttons missing from some uniforms. Fingernails long and dirty. A few pupils on the other hand appeared to be well dressed and well cared for. Debbie began the lesson by reminding pupils about the scissors and glue they were asked to bring to school for that lesson. She walked around to check and expressed disappointment that some children did not have anything. Some children offered reasons for not having the requisites (forgotten, did not have etc.) Debbie had borrowed three pairs of scissors earlier (from another class) and asked pupils to share them. She reminded them to be careful, as she had to return them.

In the context in which Debbie taught, borrowing and sharing was the norm. It was unreasonable to expect poor children who did not bring sandwiches to school to be able to afford luxuries like glue and scissors. For lessons that required such resources, Debbie had to be resourceful in order to ensure that all pupils had the opportunity to engage in the planned activity.

Extract from first lesson observation report (T = teacher; P = pupil):

Debbie explained to pupils that they were going to 'make' something. She wrote the word 'make' on the board. Asked pupils to suggest another word for 'make'. Varied responses including 'do', 'finish', 'build' etc. Debbie asked them to think about a business. Eventually a pupil answered 'produce'. Debbie praised the pupil.

- T: What other words can we make from 'produce'?
- P: Producer.
- T: Yes, what's a producer?
- P: Someone who makes.
- T: Give me an example of a producer.
- P: Like bread mam, a bakery makes cakes.
- T: Yes.
- P: And a factory, mam, for furniture.
- T: Yes a bakery that makes bread and a factory that makes furniture. What other words can we make from produce?
- P: Producing.
- T: Yes, anything else?
- P: Production mam.
- T: Very good, production. Who knows what's production? Who can explain what is production?
- P: It's like making mam.
- T: Ja, its making things, when a factory makes things it's production. Okay, today you will be making things. (Teacher writes the word 'production' on the board - and its meaning - 'making').

Debbie divided the pupils into groups and explained the task. Pupils had to make a box. She showed pupils a model of the box that she wanted them to make. It was a match box.

- T: Let's see, what will we need to make this box? Yes Jan..
- P: We'll need paper mam.
- T: Yes we'll need cardboard. (writes on the board) what else?
- P: What about Pritt, mam?
- T: Yes, glue to stick. Who knows what the glue and cardboard are called?
(long pause)
- T: It has two words.
- P: Glue and cardboard mam, (giggles and class laughs).
- T: (smiles) Very funny Rishen. Come on now, it starts with R and M.
- P: Raw materials mam.
- T: Yes good Nerusha it's called raw materials. (Writes on the board). It's what we need to make our box. What do we call the people who make the boxes in the factory?
- P: Workers mam.
- T: Ja, another word for workers, it starts with L.
- P: Labour, mam.

- T: Yes good, labour. (writes on the board).
- P: Sometimes machines make them, mam.
- T: Yes they do, but remember that workers in a factory are called labour. What else?
(pause)
- P: What about the writing and the picture mam?
- T: Yes there is also writing on the matchbox. Who knows how they get the writing on the box?
- P: I think they like stamp it mam, or maybe they photocopy.
- T: Yes something like that. I'll tell you later. Okay let's get started with the boxes or else we won't finish on time.

The above extract revealed Debbie's 'inadequate or partial knowledge' of EMS content knowledge and pedagogical content knowledge. These gaps in her knowledge translated into strategies that included 'ignoring' or 'side-stepping' economic concepts and issues that she did not understand. Debbie tried to establish the concepts 'production', 'labour' and 'raw materials'. While she was able to identify examples of 'raw materials, she did not proceed to expand on her explanation of what it meant. The concept labour also received little attention. The concept capital in the form of tools and machinery was not discussed although it was raised by a pupil.

It was interesting to see the contrast between the kind of classroom environment that Debbie created in her classroom to the environment in Ben's classroom (see below). Debbie's pupils appeared quite relaxed and appeared to enjoy interacting with her. The fact that a pupil felt 'safe' to make jocular comments in her class meant that Debbie and her pupils had developed a trusting relationship that allowed such incidents to occur.

For the next twenty minutes of the lesson, Debbie allowed the pupils to work in groups to make their boxes. She demonstrated how to dismantle a matchbox and use it as a template.

Second extract from Debbie's first lesson observation report:

Some groups understood the task immediately and set about doing it. Others weren't sure and were reluctant to get started without checking with the teacher. Some pupils tried to cut out their shapes without drawing them. Debbie suggested that they first outline the template on their cardboard. She asked them to think about how they could get the most

out of the material that they had. She said that she wanted to see which groups made the most and best boxes. Pupils were allowed twenty minutes to perform the task.

In one group, pupils opted to make boxes individually. There appeared to be some tension in that group. Pupils had to wait for the template and the scissors. Some groups appeared to divide the task up quite well - outlining the template, cutting, folding the edges and sticking the sides together. In other groups, there was still some confusion about what each person's role should be. In some groups, leadership appeared to happen quite quickly, while in others, pupils sat around waiting for the teacher to tell them what to do.

After about 12 minutes, the first box was made. Debbie praised the successful group and encouraged the others to keep at it. Pupils asked if they could draw in the picture of the lion. In some groups, pupils appeared distracted and uninterested in the task. They simply sat and watched other pupils work or gazed out the window.

Debbie reminded pupils about the mess they were making and asked them to make sure that they did not drop anything on the floor.

After twenty minutes, Debbie reminded the pupils that the time was up but decided to give them a further five minutes. Pupils began to hasten their activities. Those pupils who were sitting idle continued to do the same.

Debbie stopped the activity after a further five minutes. Some pupils complained about not being able to complete, but Debbie insisted on them stopping. Each was given a plastic bag into which they had to put their finished and semi-finished products. Debbie then asked pupils to submit their best boxes they had made. Pupils were keen to show off their work. Debbie praised pupils' work.

She enquired whether they had enjoyed the task. Most agreed that it was fun but complained about not having enough time and pairs of scissors.

She then asked the pupils to copy the notes off the board. Debbie wrote the meanings of the words 'produce', 'production', 'producer', raw materials and labour.

6.3.3.1.1 An analysis of the EMS content of the lesson

This lesson was based on work covered in one of the recent TEMS workshops. Debbie had modified the approach to suit the needs of her class. She introduced the concepts 'production', 'producer', 'produce', 'raw materials' and 'labour'. However, she did not proceed to expand on the meanings of these concepts especially the concepts 'raw materials' and 'labour'. When faced with the question that machines sometimes made things in factories, Debbie did not pursue that line of thinking but resorted to make the point that people who work in a factory are called 'labour'. She did not attempt to engage

in any discussion on the relationship between capital (machines) and labour. In fact, the concept 'capital' appeared to be completely absent from this discussion. In the context in which this lesson was being taught, the equipment required to make the boxes (scissors, worktops and other machinery would constitute the capital of the business. In the post lesson observation reflection session, Debbie acknowledged that she had neglected to engage with the concept 'capital' as she had not quite worked out its meaning in the context she was teaching. She noted that she understood 'capital' to be money that a business had to start up the business operation. She also mentioned that she had read about 'fixed capital' and 'working capital' somewhere but had not sufficiently grasped their full meanings. These concepts were discussed in the reflection session, and ideas for future lessons (division of labour, problems associated with division of labour and possible benefits of division of labour, use of resources, wastage, recycling, job satisfaction, conditions of service, job hierarchy, skilled and unskilled labour, advertising, marketing etc.) were considered. Debbie was astounded by the economic and management issues that could emanate from a simple activity such as making a box. The exercise of making boxes had potential to expand into a range of economic and business management issues.

The above extracts confirm that Debbie did in fact have a '*partial or inadequate*' understanding of EMS 'content knowledge' and 'pedagogical content knowledge' in the early stage of the TEMS programme.

6.3.3.3.2 Commentary on the pedagogic approach of the lesson

In the post lesson discussion, Debbie said that she had wanted to make that lesson a 'learner-centred' lesson where learners were actively involved in doing something. Brodie et al's (2002) notion of teachers embracing the 'form' while 'neglecting' the substance was a phenomena that was evident in this lesson, as will be seen in the discussion below. Debbie was resourceful in that she ensured that all groups could proceed with the task of making their boxes. She appeared to have created an atmosphere conducive to good rapport between herself and her pupils. Her questions however were

largely recall, repetition or were simply factual questions. She rarely asked questions that required some form of explanation or that were particularly demanding or challenging. Although she was able to establish 'rapport', it was of a superficial nature. Her questioning and rapport could be categorised as inadequate. Debbie appeared to withdraw from issues or concepts she was unsure about and preferred to focus on what she was sure she could teach. Teaching resources comprised the materials she had assembled for her pupils to engage in the activity of production and the use of the chalkboard. Although pupils were actively involved in making their boxes in groups, it was clear that Debbie struggled to link the activity more closely with economic and management concepts. Although she had earlier alluded to the issue of discipline as a problem in her class, her lesson had progressed with minimal interruptions or disciplinary problems.

It was clear that from a qualitative analysis of the lesson in terms of the 'teaching resources' employed, the level of 'pupil involvement' and 'questioning and rapport', while Debbie's practice could not be categorised as 'weak or poor', it could not however be categorised as 'adequate'.

6.3.3.2 The second observation of Debbie's teaching

In this section, an analysis is provided of how Debbie's practice had changed since her involvement in the EMS project. This is done in terms of the categories established in the previous section, namely, 'content knowledge', 'pedagogic content knowledge', 'questioning and rapport', 'pupil involvement' and 'teaching resources'.

Extract from my journal (dated 2 October 2003):

Debbie had become a leading member of the group. She certainly was leading the development of EMS at her school. Debbie appeared to be one of the more confident and organised members of the group - led by example, keeping a meticulous file of all the documents/materials that were generated over the year - appeared keen to extend her knowledge of EMS and EMS teaching and always had several questions and issues to discuss and share with me. Often mentioned that she had tried out some of the topics that we'd discussed in the workshops and often shared her successes and difficulties with the group. When one observed Debbie in the workshops, it became clear that she was very involved in

what was going on - made copious notes of discussions and points that were raised, stop, look up, seek clarity and proceed.

During the course of the year, she would call on me for advice and clarity on a range of EMS issues. Of all the members of the group, Debbie was probably the person who consulted me the most. She appeared to be intrigued by how vast the body of commerce knowledge was and began to increasingly see commerce in every thing around her.

Debbie's interest and enthusiasm for the learning area manifested itself in her changing classroom practice. She had begun to access a wide range of economics and business management teaching material on her own, using the Internet and other sources.

Second extract from my journal:

In my earlier discussions with Debbie she would mention that it was quite difficult to keep the grade sevens interested and focussed, since the pupils in grade seven were just reaching adolescence and were at an awkward age and basically questioned everything they did. She said that many felt that they had just a few months in primary school and would soon be moving off to high school.

Debbie had been reading through the material that was covered in the workshops trying to find interesting ways of presenting her lessons - stumbled on an article/document that she had picked up at a workshop (a few years back) - it presented ideas on how music could be used to introduce and teach lessons - was impressed with the ideas and wanted to try them out. Wanted me to observe that lesson - was keen to get my thoughts.

This presented an interesting change for me as researcher, because my experience with most of the participating teachers was that it was a difficult task to get teachers to settle on a date and time for lesson observations. In this instance, Debbie was inviting me to her class to observe her try out something different.

Extract from Debbie's second lesson observation:

Debbie and her class were expecting me. She greeted me warmly and invited me to greet her class, who were by now familiarly addressing me by my surname. I received a loud "Good morning Mr Maistry" from the pupils. Debbie had arranged for one of her pupils to bring a radio to school - she laughingly mentioned that one of her pupils had suggested a 'ghetto blaster' but insisted that any radio with a CD player would be adequate. There was a buzz of excitement in the class- pupils could sense that they were about to experience a different EMS lesson.

The lesson began with Debbie asking pupils if they knew whom the Beatles were. Some had heard of them, saying that their parents/grandparents liked them, while others had not

heard of the group at all. Debbie explained that they were one of the most successful groups of all time. Asked the class to listen to the piece of music she was going to play and to make notes of anything they thought was interesting. Then played the old Beatles song "Can't buy me love". Allowed the song to play for about two minutes and then turned it off. Handed out transcripts of the song and allowed pupils to read through - (pairs). Some children began singing off the copy. Debbie smiled and encouraged them to read quietly and to try to understand the meaning of the song.

She then conducted an oral discussion of the song around questions that she posed. (Do you agree with the song that money can't buy love?) - Some discussion on this with some boys indicating that girls would only date boys who had cars and who were rich. A few very vocal girls did not agree and suggested that sometimes men marry 'into' money. Debbie allowed the discussion to continue and then went on to question whether material goods were essential or not. Urged pupils to reflect on the nature of wants and the example they had previously discussed which compared an American household to an African household. Went on to explain that people's needs differed according to their standard of living, and their place that they lived in (compared needs of rich urban dwellers and Bushmen). - drew pupils attention to the concepts of scarcity and choice - made pupils realise that even wealthy people had to make choices and that even wealthy people had limited (financial) resources.

Debbie was able to create much interest in this EMS lesson. She used the music to good effect to reinforce the concepts she wanted her pupils to learn. In the deliberation that ensued, Debbie entertained a discussion of whether material goods made people happy. Pupils readily quoted pop stars and sports stars that were extremely wealthy, but indulged in alcohol and drugs to keep them happy. She then proceeded to question whether money was needed at all. Pupils were quite clear that money was essential in order to exchange it for goods and services. Debbie explained that people had to work to earn money. She extended the notion of work by comparing people with different abilities and skills and suggested that highly skilled people generally earned higher salaries.

Second extract from Debbie's second lesson observation:

Debbie posed the question: Do you think that singers sing and produce CDs because they love to sing or because they want to earn a living? Think about Britney Spears. She did not take discussion on that issue but asked pupils to think about the answer - they would return to it at a later stage.

The second part of Debbie's lesson involved listening to another song. In the extract that follows, we see how Debbie was able to use the song to engage her pupils in a discussion on the role of the government in addressing the needs of its citizens.

Third extract from Debbie's second lesson observation:

Debbie turned up the volume to the Eddie Grant song "Give me hope Joanna". Most pupils appeared to be very familiar with this song (popular amongst many South Africans). Pupils were allowed to read the transcript of the song as it played - again there were numerous antics (from especially the boys) as the song played. Debbie appeared to be quite comfortable to have them enjoy the music but reminded them to think about the questions she posed at the bottom of the transcript. After music had stopped, she divided the class into groups of four to six pupils - instructed them to try to answer the questions. Debbie acceded to a request to play the song softly while pupils engaged with the task of answering the questions. Questions on the worksheet included:

1. Who is the singer?
2. What is the name of the song?
3. In which year was this song first released and became a big hit?
4. Who were the few people that Joanna was making happy?
5. Who or what do you think is Joanna?
6. What do you think the singer is singing about?
7. Is the singer correct in saying that Joanna did not care about the rest of the people?
8. Who is the preacher who works for Jesus? Which archbishop is he referring to?
9. What does he mean when he says "Sneaking across all your neighbours' borders?"
10. What kind of 'fun' was he referring to?
11. Why do you think the singer chose to sing about these problems?
12. How do you think the problems created by Joanna could be solved? Do you think that there is a need for the new government to solve some of these problems?

The first three questions did not present a serious challenge to the class as Debbie circulated the CD cover amongst the groups. From question four onwards, much intense and animated discussion between pupils began to take place - it was a revelation to many pupils who Joanna actually was - sought confirmation from Debbie.

It was evident that some pupils were more aware of South Africa's apartheid history and its consequences than others. Most children had heard the song, knew a few sing-a-long lines of the chorus but had previously not paid attention to the words. Pupils expressed amazement that it was more than a 'pop' song and that it was in fact a song about South African politics. Some pupils indicated that their parents liked the song but were unsure if they (parents) really understood the meaning and what the singer was singing about. At least two pupils had heard interpretations of the song previously but admitted that they had not given it serious thought.

Debbie was able to use her background and experience to provide a discussion of the South African political landscape before and after 1994. She drew pupils into a discussion as to whether the status quo ought to have remained after 1994. At first pupils could not understand the point she was making. She went back to the last question on the worksheet, which questioned whether the state had a responsibility or duty to change the way in which the country's financial resources were distributed.

Fourth extract from Debbie's second lesson observation:

Some pupils felt that government should not be involved in the economy. Many were quite vocal about how they perceived the state's role - commented on fraud and unnecessary spending (president's new jet) - said that their parents were unhappy with crime and many people were unemployed. Debbie appeared to have some difficulty handling all the issues pupils raised - some pupils were quite adamant that the government was not doing enough. At first Debbie attempted to answer questions and respond to issues that pupils raised. She then resorted to writing key issues on the board and allowed pupils to continue to voice their opinions on the role of the state. In the discussion of questions six and seven, pupils appeared to accept and understand that certain groups of people had received special privileges under the old government. (I got the sense that the pupils did not get the extent of the privilege and the economic advantage that it created).

For question eleven, some pupils agreed that the state had to play a role but were quick to point out that that they felt that the state was not doing enough and that things were getting worse. One pupil mentioned that he knew of a family who was leaving the country because they were unhappy in South Africa. Debbie asked pupils to think about whether things would improve if the government did nothing at all - did not take discussion on the issue at that point.

Written task one: Write a letter to your local newspaper. In your letter describe some of the problems South Africans experience and whether you think the government is doing enough to solve these problems. Explain what you think the government should be doing.

Written task two: As the spokesperson for the government, write a good reply to the above letter.

There was much resistance from pupils to the writing task. Some wanted to know if they could do the written task at home - and move on to the next song for the lesson. Debbie had earlier mentioned that there were three songs that she had planned to use for that lesson. After some cajoling, Debbie agreed that only the first letter could be written at home.

Debbie proceeded to play the next song entitled "Talking about a revolution" by Tracy Chapman. She allowed the song to play to the end and then distributed a set of questions on the song:

Questions:

1. What is a revolution?
2. Who was planning a revolution?
3. Why do you think they are planning a revolution?
4. What is 'welfare' and who is standing in welfare lines?
5. What is unemployment?
6. Why are some people rich and many people very poor in many countries? Is it the same in South Africa?

Debbie could sense that she was running out of time and proceeded to draw a pie graph on board. She explained that the entire pie represented all the money (wealth) in South Africa. She then indicated (shaded) that one quarter was owned by 90% of the population and the remaining three quarters was owned by only 10% of the people. (I got the sense that some pupils still did not understand the magnitude of the problem and the skewness of the income distribution).

In the last part of the lesson, Debbie had run out of time to engage in a discussion of all the questions on the worksheet. She drew pupils' attention to the homework task, which required that they identify similar songs. She emphasised that the more important task was to find out what the 'RDP' meant and to write out five 'good sentences' on the RDP.

6.3.3.2.1 Commentary on the EMS content of the lesson

In this lesson, Debbie introduced and consolidated several economic and management concepts, such as 'scarcity', 'choice', 'needs', 'wants', distribution of resources, inequality and the RDP (the government's Reconstruction and Development Programme). Pupils were introduced to the role of the government in the economy. Debbie approached the subject content with confidence and authority and demonstrated a remarkable change in her knowledge of basic economic issues. In post lesson discussions, she said that she had planned to engage pupils in a discussion of the scarcity problem that the government faced by reviewing how financial resources were distributed in the national budget. Debbie had shown initiative and had read and explored commerce material over and above the material that was available from the TEMS programme. She had begun to actively seek out economic information. In the past, her focus had been on mere survival, that is, knowing enough to be able to teach a particular lesson or topic in a minimalistic way. Assimilating economic knowledge on a daily basis for personal growth had become a phenomenon of Debbie's learning.

From the above extracts and discussion, we see evidence of substantial development in Debbie's 'content knowledge' and 'pedagogical content knowledge'. In fact her vastly improved content knowledge and her new found confidence allowed her to 'experiment' with pedagogy that was a distinct departure from traditional approaches to teaching and learning. Relative to other participants, Debbie had shown significant development in the content knowledge of the EMS learning area. Graven's proposed fifth component of learning, namely, 'confidence' (Graven 2002) that manifests itself in learning as 'mastery' has relevance for Debbie. While Debbie could not be described as having mastered the content knowledge in the EMS learning area, indications were that she was certainly heading in that direction.

An analysis of the style of the lesson follows.

6.3.3.2.2 Commentary on the pedagogic approach to the lesson

In this lesson, we see that the quality of 'pupil involvement, 'teaching resources' and 'questioning and rapport' had changed profoundly. Debbie had explored an approach to teaching, which she had not tried before. She projected herself as a resourceful and innovative teacher who was beginning to explore alternative approaches to teaching and learning. Her improved content knowledge of EMS had begun to influence her pedagogy. She effectively used music to introduce her lesson and to create an interest in the lesson. Through the use of song transcripts, she was able to engage her pupils on economic issues that she wanted them to become aware of. Debbie had also begun to ask more open-ended questions, allowing pupils to present alternative solutions to some of the issues that were raised. There was a distinct shift in the quality of engagement that took place between Debbie and her pupils in the second lesson observation as compared to the first. Written work in this lesson took the form of two letters. The task was designed so that pupils were forced to present issues from different perspectives.

Debbie's practice in terms of 'questioning and rapport' had shifted significantly and had revealed a marked development. The quality of 'teaching resources' employed had changed and moved beyond being adequate towards becoming really good. The nature and quality of pupils' involvement had shifted from being mere mechanical exercises. Her lesson revealed that quality 'pupil involvement' in meaningful tasks that engaged with EMS concepts and phenomena, was substantially present. Brodie et al's notion of the tension between 'form' and 'substance' appeared to be managed with increasing competence (Brodie et al 2002).

In the next section, I analyse Ben's changing practice in terms of the categorisations used above, namely, 'content knowledge', 'pedagogic content knowledge', 'pupil involvement', 'questioning and rapport' and 'teaching resources'.

6.3.4 A narrative vignette of Ben

Ben was an isiZulu speaking African teacher in his mid-forties. He had taught at eight different schools in his teaching career, and regarded his current school as the best that he had taught at. While his school may not have had all the facilities of the more advantaged schools, he felt that his school staff was very united. This is significant in that of all the participating schools, Pecan Primary was the poorest and least resourced. A detailed description of the school follows later in this section.

Ben described his childhood as being a happy experience. Although the man who had raised him was not his biological father, he had taken good care of him. He appeared grateful for what his parents had provided for him given the poor conditions under which they lived. He had been moved to several schools during his school career because his parents had moved house several times.

Ben had a disrupted academic career. He explained how he had to change subjects from Mathematics and Physical Science in high school because he had found them too difficult. He had had to repeat a year, having had to restart his senior secondary schooling

with a new set of subjects. Without having finished matric (Grade twelve), he was admitted to a teachers' college, where he spent two years.³ Ben then joined the teaching profession and studied privately to obtain a matric certificate. He proceeded to study towards a Senior Teaching Certificate, but this was interrupted because he had suffered from a severe stroke. He was forced to abandon his studies at that point. Ben was still undergoing medical treatment at the time of this research study. After seven years, he obtained his Senior Teaching Certificate. He had taught for 17 years before leaving teaching to pursue business interests. He returned to teaching after three years having been unsuccessful in his business endeavours. His status at his school was that of a temporary teacher. Ben was determined to be reinstated as a permanent educator. He was always seen to be keen to please his principal and always addressed him with elaborate respect and humbleness, sometimes resorting to performing tasks for the principal that could be deemed 'inappropriate'. He presented himself as an enthusiastic person who was keen to be seen to be involved in developing himself. The following extract from my journal (30 July 2003) reflect some of the difficulties Ben was experiencing.

Over the months that I had come to know Ben, I learned that he was employed in a temporary capacity. He was one of the many teachers who had not been receiving regular monthly salary payments from the state. At one point, Ben had not been paid for a period of five months. It was a particularly difficult time for him since his family had to rely entirely on his wife's income, and assistance from other extended family members. I was amazed that during this period of time, Ben's enthusiasm and optimism never waned. He was always regular at school, very actively involved in leading the establishment of the school library, training the school choir and overseeing school functions. Later in the week, Ben would be the master of ceremonies at a joint schools' function at which the mayor of Durban was the guest of honour. Ben appeared to be a very obliging person, always careful to appear congenial and enthusiastic, especially in the presence of the principal. His tenure at the school was not secure and depended on how strongly the principal motivated for him to remain there. On one occasion I noticed the principal walking to his car with his hands in pockets (off to a meeting). Ben trailed behind him carrying the principal's bag.

Reflecting on his own school experience, Ben noted that good teachers were those who were firm disciplinarians especially those who were able to mete out corporal punishment. He felt that corporal punishment that he had received as a pupil 'made him strong'. In his years of teaching, he had used corporal punishment extensively. Because

³ Welch (2002) reminds us that under apartheid, secondary education for Black students was in fact teacher education.

the 'new' law did not allow for such practice, he did not indulge in this form of punishment very often. He stated that "... Black children are used to corporal punishment but the law doesn't allow us...". Later in the discussion, we see the effects of Ben's authoritarian approach on the classroom dynamics that operated in his EMS classroom.

Ben's current school, Pecan Primary was previously controlled by the ex-Department of Education and Training (DET) administration. Of all the schools in the sample, Pecan Primary was poorest. The school was located in a semi-rural setting just outside the Greater Durban area. High razor wire fencing surrounded the school. A utility worker, who also doubled up as the school's general assistant, manned the entrance to the school. The school gate was always locked during the school day. It led up to a small car park, which was designed to accommodate about eight cars. Although the roads leading to the school were tarred, the verges were overgrown. Litter and other rubble could be seen dumped at different unofficial dumping sites.

The school comprised a single administration block and a double storey structure where the classrooms were located. Of significance at Pecan primary was the absence of greenery. While the school grounds were free of litter, the barren, grassless surroundings created a dry and dusty appearance. The entrance to the administration block was poorly lit. Numerous posters could be found on the walls. These included the eight Batho Pele⁴ principles, school governance and finance issues, and aids awareness posters. The school had a telephone and although it had a fax machine, it seldom functioned properly. It had two computers that were located in the principal's and deputy principal's office. The school could not afford to be linked to the Internet.

Only grades four, five and six operated at Pecan Primary. The school had a roll of about five hundred pupils. There were on average, forty-five pupils per class. All pupils at this school were African. While most children were Zulu mother tongue speakers, some were Xhosa speakers. Sports facilities at this school were non-existent. The nearest sports field

⁴ The eight Batho Pele principles guide service delivery in the public sector in South Africa

was three kilometres away from the school. During the intervals, children generally sat along the corridors or played games on a dusty open area in front of their classrooms. This school serviced a very poor community. Almost all the pupils came from homes that were impoverished. Most families in the area struggled to meet their most basic requirements in terms of food. For this reason, the school had succeeded in securing sponsorship that enabled it to provide a meal to its pupils everyday (usually soup and bread). Teachers were elected to a committee that was responsible for ensuring that the meal for each day was ready on time. Ben mentioned that because of the feeding scheme, the school had excellent pupil attendance. The school also provided for all the basic stationery requirements of its pupils.

At the start of the TEMS project, Pecan Primary did not have a functioning library. It had no library furniture and fittings, but it did have about thirty books. A committee had been set up to put in place plans to develop a library. Beth and Ben, two of the TEMS teachers, were playing leading roles in setting up the new library. A classroom was allocated for this purpose. With the books that I had secured for the school, and donations from other institutions, the first functional library in the school's thirty-year history started in August 2003.

6.3.5 Teachers' perceptions of their changing EMS practices: How had Ben experienced change?

Ben reflected on his own school career and regarded the teachers who had taught him as really good. As mentioned earlier, he maintained that corporal punishment meted out to him had made him a better person. Ben adopted a similar approach to his teaching, stating that he also used corporal punishment in his teaching. He presented himself as an authoritarian teacher and a strong disciplinarian. His comment about corporal punishment and Black African children presented a chilling reminder that draconian punitive

sanctions are still very much a part of the ethos at some schools even though the official policy on corporal punishment forbade such practice.⁵

Ben: Our black children are used to corporal punishment but the law doesn't allow us, so we can't use it.

There was thus a profound dissonance between Ben's thinking on what constituted effective teaching and one of the design features of C2005, namely, learner centredness. Ben struggled to come to terms with the tension between his historical identity as an authoritarian teacher and the concept of learner centredness. Harley and Wedekind (2004: 211) refer to this as "curriculum and cultural discontinuity in disadvantaged schools". In Africa, traditional value systems privilege teachers as authority figures and this is a serious obstacle to learner-centred reform (Christie, Harley and Penny 2004). The increased politicisation of education has challenged teachers' sense of professionalism and identities. Teachers' roles have changed from being expert knowledge holders to facilitators of learning (Sugrue 2004). In Ben's case, the problem was compounded by his weak knowledge of the content he was expected to teach.

Ben mentioned that EMS was a new learning area to him. He regarded himself as an 'old' teacher who had to 'cope' with OBE. He felt that OBE was different to his experience of teaching and suggested that ongoing workshops would be more effective than once-off workshops.

Extract from initial interview:

Ben: Ja, I'm new at this. I'm just an old teacher who got into OBE just now. And I think as I go on, the studies of EMS, I will just try to cope because I think it is a good subject... OBE is different with us. I don't know whether we belong to the old school of thought. I don't know it seems different with us. Really we need a lot of workshops. We need workshops really because if we are going to get the one day workshops, it won't help...

⁵ At the time of writing this research report, a high school pupil in KwaZulu-Natal had died after being subjected to corporal punishment by a school principal

Ben went on to mention that he knew very little about the EMS learning area and how to teach EMS. He had not read the policy document and therefore knew nothing of the nature and scope of the learning area or the outcomes applicable to EMS.

Evidence from the transcripts of Ben's initial interview indicates that his 'content knowledge' and 'pedagogical content knowledge' of EMS could be categorised as weak or non-existent. This will be confirmed later in this section when an analysis of the first observation of his teaching is presented.

In the final interview, Ben explained what had changed for him:

Extract from final interview:

MM: How would you compare your current knowledge of EMS to your knowledge at the beginning of the year, has there been any difference?

Ben: A lot of difference, a lot of difference, because you know at first I took this learning area, knowing nothing, but since I've attended these workshops, a lot of knowledge, I've gained a lot of knowledge. I know most of the things now.

MM: Do you use the materials developed at the workshops in your teaching?

Ben: Yes I do, yes I do. Especially the ones that we made there. The graphs and the information on imports and exports were very much useful. They were very impressive, very informative.

In response to whether his classroom practice had changed, Ben had the following to say:

Ben: Ja, as I said earlier, when I took this learning area, I knew nothing about it, but as time goes, I became unfolded, I'm now teaching freely, meaning that the documents that we work with are helpful in giving us knowledge, so there is a lot of change I can say. I'm feeling more confident now.

Here Ben referred to his changed 'knowledge' of EMS from knowing 'nothing' to feeling 'more confident' and 'teaching freely'. The nature and extent of the change will be analysed later in this section.

In the next extract, Ben referred to the 'market days' that he and Beth had organised at their school and the interest that it had aroused amongst the pupils.

- MM: Can you describe the EMS activities that you've been involved in at your school?
- Ben Yes, a lot, a lot. We came here from the first workshop, we, we know we practised marketing. We had three market days and we made a lot of money. There's three moneys, three market days and the kids were so impressed, they bought our items and we made money. And we have now gardens from this project, that's why we sell spinach; we sell carrots and all that. The children are learning entrepreneurial skills. And we want to involve them. Now we want to involve more classes in market days, but the time is always a problem. The time is very short.

Here Ben (like Beth) had thus created an interest in the EMS learning area through the market days.

In the above extracts from Ben's final interview, Ben asserted that his knowledge of EMS had changed, laying claim to 'a lot of difference'. An analysis of the second observation of his teaching later in this section, however, revealed that Ben's 'content knowledge' and 'pedagogical content knowledge' of EMS was indeed scant and inadequate. However, we begin with the first observation of his teaching.

6.3.5.1 The first observation of Ben's teaching

The following extract from Ben's lesson observation report illustrates his approach to teaching his grade six EMS class. Ben indicated that the purpose of the lesson was to establish the concepts 'primary sector', 'secondary sector' and 'tertiary sector'.

First lesson observation report: Ben

When Ben and I entered the class, there was absolute silence. All pupils immediately stood up to perform the greeting ritual. I was introduced and was given a practiced applause (two slow claps, followed by four quick claps and then another five quick claps). Ben came across as a very authoritarian teacher. He was very formal in his approach and spoke with a stern voice. I wondered how this normally congenial and softly spoken person had suddenly transformed into an 'army commander' marshalling his troops.

He placed much emphasis on standing up straight (with arms at the back) to answer questions.

He often reprimanded pupils for providing 'one word' answers to questions. (Very often, all the question needed was a 'one word' answer). Pupils who answered in single words were sometimes ridiculed (labelled 'mad') while those who stood up straight and answered in a full sentence were applauded by the class after being prompted to do so by the teacher.

(T = Teacher, P = Pupil)

T: Which is the winter month?

P: May.

T: You can't just say "May". Someone will think that you are mad!

Another pupils answers in a full sentence and is then applauded in the same rhythm described above.

Ben appeared to revel in the fact that he could speak and understand English well, while his pupils could not.

Ben presented himself as a strict disciplinarian who was not unwilling to use punishment and coercion as a means of controlling his pupils. For him, good lessons involved firm discipline, an adherence to rules and rituals.

Second extract of Ben's first lesson observation report:

Ben began the lesson by asking pupils questions about the origin of resources. He used the school desk as an example. Pupils were asked what the desk was made of and where the different parts came from. Pupils were able to trace back the timber to its origin as a tree. They did experience some difficulty with the metal items like the framework and the screws that held the desk together. Ben tried to explain the origin of the metal products. He switched between English and isiZulu. It was clear that many children were excluded from the conversations when the language used was mainly English.

After the origins of the components were established, the teacher attempted to categorise the different activities into the three sectors of the economy (primary, secondary and tertiary) - wrote these three terms on the board and asked pupils to repeat them after him. Ben's explanation of the different sectors was very limited - had difficulty explaining clearly the activities and the characteristics of the primary and tertiary sectors.

Although Ben had used the chalkboard to write out the terms, that was all the board was used for. He then asked pupils to write a list of all the ingredients that went into making a loaf of bread to figure out where they had originated (individual task). Much of his explanation of the question was in isiZulu. Some pupils still appeared confused as to what was expected of them. Others began making lists of possible ingredients for making bread.

After about fifteen minutes, the teacher stopped the class and asked for answers to the questions he posed. Many children responded with correct answers, naming the ingredients

for making bread. The difficulty and confusion arose when pupils and the teacher tried to categorise the activities into the primary, secondary and tertiary sectors. Some children were reprimanded for providing incorrect or partly correct answers. It was clear that the concepts 'primary', 'secondary' and 'tertiary' were still unclear to the pupils. The teacher then asked pupils to select any two items of their choice and to repeat the exercise of tracing back the component parts and categorising them into the different sectors. Pupils were given the rest of the lesson to complete the task.

6.3.5.1.1 Commentary on the EMS content of the lesson

Ben had a poor knowledge of the EMS subject content he was teaching. His explanations were unstructured and difficult to comprehend. He was unable to deal with misconceptions and confusion that arose in the lesson, and his attempt at clearing up the misconception about the distinction between the three sectors he was teaching actually led to more confusion. In the reflection session, I enquired about the confusion with the primary and tertiary sectors. Ben explained that the activities in the tertiary sector had confused him and that he had to go back to his workshop notes.

The evidence from the transcripts indicates that Ben's 'content knowledge' and 'pedagogic content knowledge' of the EMS learning area was weak. Knowledge of key economic concepts and phenomena was non-existent.

6.3.5.1.2 Commentary on the pedagogic approach to the lesson

In the lesson observation reflection session, Ben indicated that he did not keep formal lesson preparation records. His comment was that it was 'in his head' and that because 'nobody sees it' there was no need to have it. "I know what I'm going to teach and I just teach it, just teach it. There's no problem". Ben's unstructured approach to planning his lessons and his decision not to prepare in writing for his lessons manifested itself in a lesson that lacked direction and clear a purpose. Core content knowledge that was to be taught in the above lesson came from the teacher whose knowledge thereof was suspect.

The pedagogy was formal. As the dominant figure in the class, Ben controlled everything that happened. He asked the questions and decided who should answer, the format of the answer, and the ritual to provide the answer. Strong discipline and compliance with predetermined rules appeared to overshadow the focal aspects of teaching and learning in that class. Ben appeared to become agitated by incorrect answers, yet made no attempt at engaging pupils who had answered incorrectly. Rapport between the teacher and pupils was poor. Of significance in this lesson was the complete absence of any teaching and learning resources (apart from the chalkboard).

‘Questioning and rapport’ appeared to be weak. ‘Pupil involvement’ in meaningful activities was superficial and can be categorised as poor. ‘Teaching resources’ were basically non-existent.

From Ben’s second lesson observation report, we notice that Ben had made marginal changes in his approach to his lessons. He appeared to have acquired more content knowledge of the topic he taught, but still preferred not to develop teaching materials or any form of written plan. In the discussion that follows, an analysis of his changing practice with respect of ‘content knowledge’, ‘pedagogic content knowledge’, ‘pupil involvement’, ‘questioning and rapport’ and ‘teaching resources’ is presented.

6.3.5.2 The second observation of Ben’s teaching

Extract from Ben’s second lesson observation:

Ben’s class greeted me with the usual ‘clap’ greeting. Ben started the lesson by asking pupils to list the things they saw around them. Pupils called out several items - list created on board (desks, chairs, books etc).

T: Who can say what this desk is made up of? Think about every single thing that is used to make this desk. Look carefully. Yes (pointing).

P: It is made of wood.

T: Yes wood. Yes (pointing).

P: It is made of iron.

T: Yes iron or metal.

P: It is made of nails.

- T: Look again. Is it nails?
P: It is use screws (shows a screwing-in motion with hand).
T: Ja its screws not nails. What else? Think about the colour?
P: It is brown.
T: Ja, we can see it's brown - but is it painted brown?
P: (answers in IsiZulu)
T: (responds in IsiZulu) -Ja it's called a varnish, a varnish. When you paint, its clear. It's a varnish.

Ben proceeded to ask pupils to describe how the desk was made. This created some confusion - slipped into mother tongue to explain. Wrote the following questions on the board:

1. Where will the desk be made?
2. Who will make the desk?
3. What tools will be needed to make the desk?

Pupils worked in pairs.

After five minutes, Ben called for answers. Pupils were able to establish that workers in a factory would make the desk, and that saws, hammers and screwdrivers would be used to make the desk. Ben drew and labelled three circles on the board. Each circle represented a factor of production; namely; raw materials, labour, and capital. He proceeded to group the inputs (wood and screws) under "raw materials"; workers under "labour" and saws, hammers and screwdrivers under "capital".

- T: Where do we get the wood?
P: It come from trees.
T: Yes from trees, and where did the metal to make the screws come from?
P: It come from the ground.
T: It comes from nature. You know nature. It's natural. So we say it's a natural resources. Everybody say 'natural resources'

Whole class: Natural resources.

T: Yes it's natural because it comes from nature.

Ben proceeded to label workers as "labour" and established that workers received salaries and wages.

T: As you can see (points to the board) the hammer, saw and screwdriver and even the building we call capital. It's capital these three.

Three questions on board:

1. Who decides how many workers to employ?
2. Who decides how many desks to make?
3. Who gets the profit when the desk is sold?

(Pause) Ben calls for answers to the above questions. Answers include 'owner', 'boss', 'manager', and 'businessman'. Ben carefully writes the word 'entrepreneur' on the board, taking time to get the correct spelling from the note in front of him.

For the remainder of the lesson, Ben revised the four factors of production. He wrote their meanings on the board and asked pupils to copy them into their notebooks.

6.3.5.2.1 Commentary on the EMS content of the lesson

In this lesson, although Ben was able to establish the concepts 'natural resources', 'labour', 'capital' and 'entrepreneur', his engagement with these concepts was somewhat limited given the depth in which they were discussed at the workshop sessions. Issues concerning access to, availability of and the reward for factors of production did not come through in this lesson. Different categories of labour (skilled, unskilled etc.) were not explored.

In the initial interview, Ben indicated that he had quit teaching to pursue a business venture before returning to his current school. At no point in the TEMS programme did Ben volunteer information about this experience. In an informal discussion, he mentioned that he preferred not to speak about what he termed a 'bad experience'.

Although Ben reflected improved 'content knowledge' of EMS concepts, his knowledge of the EMS learning area and economic phenomena could not be classified as adequate. He had shifted from a state of having very weak 'content knowledge' to having developed a 'partial understanding' of the EMS learning area. This 'scant or partial understanding' of EMS translated into an inadequate development of 'pedagogic content knowledge'.

6.3.5.2.2 Commentary on the pedagogic approach to the lesson

Ben appeared much more relaxed in this lesson. In the post observation reflection session, he mentioned that he had begun to think about how he projected himself as a teacher in the past, indicating that he did not want to be seen as a 'strict disciplinarian', but preferred to be an approachable teacher. He was interested to know whether I had noticed any change in his approach to his pupils. Ben's concern about his approach

stemmed from a discussion at the TEMS workshop where the issue of corporal punishment had surfaced. Some teachers had voiced their disapproval of the practice and reflected on how it had affected them as pupils. Some questioned whether they were prepared to accept the practice of corporal punishment if it were meted out to their own (biological) children. The issues that emerged (although not all teachers appeared convinced at the time), was that there was no need for pupils to be terrified of their teachers and that 'good' teachers generally earned the respect of their pupils. This discussion appeared to have had a marked impression on Ben and his approach to his own class. Although classroom rituals such as the pupils' rhythmic clapping of hands and standing up to answer questions were still very present in Ben's lessons, they were not as pronounced as they had been in the first lesson. Ben had begun to ask more questions and was more tolerant of incorrect answers. However, the quality of the engagement and questions asked still required simple recall of information. Pupil involvement took the form of verbal responses to the teacher's questions and a five-minute paired 'activity' requiring pupils to respond to three straightforward recall questions.

Ben still preferred not to maintain any form of lesson plan. Apart from the chalkboard no charts, pictures, worksheets, texts or other teaching resources were used in this lesson.

Evidence from the transcripts above indicates that Ben's practice had shifted minimally. While 'questioning and rapport' and 'pupil involvement' had changed from being weak and non-existent to becoming scant and still inadequate, 'teaching resources' remained non-existent.

6.3.6 A synopsis of Section Two

From the above analysis of Ben and Debbie, it is clear that learning had occurred for both teachers. The nature and extent of the learning was, however, markedly different for both teachers. Debbie's career trajectory and history of ongoing reading and study allowed her to embrace the new EMS learning area with well-developed skills. Debbie's 'superior' cultural capital (Bourdieu 1986), that is her disposition and way of thinking, knowledge,

skills, attitudes (high expectations) and post graduate education augured well for her to 'succeed' and benefit in profound ways in the TEMS community. She had developed an intrinsic desire to read and broaden her knowledge and regularly used the TEMS forum to engage with other teachers on issues that were important to her. Ben on the other hand had not been involved in formal study for more than twenty years. He had been a product of a repressive education system both as a school pupil and as a training teacher. He rarely prepared any of his lessons and did not see the need for any kind of record thereof. Accountability structures were virtually non-existent in Ben's school.

Debbie's financial position was stable. Her economic capital (ibid.) was not a cause for concern and did not dictate in any significant way the kinds of life choices she had to make. Ben on the other hand had experienced much instability and uncertainty with regard to his financial status. During most of his adult life, his main concern was economic survival.

As far as Debbie's personal and professional life was concerned, she appeared relatively settled and secure in her current position. She was an established languages teacher and belonged to the languages committee. The school conditions under which she worked were significantly better than Ben's. Her school appeared to have structure and quality assurance mechanisms in place that made Debbie accountable to school management for all aspects of her professional work. Debbie accepted this as part of what was required of her. This social capital (ibid.) as represented by her access to resources based on group membership, relationships, networks of influence and support, enhanced her potential to move from peripheral to full membership of the TEMS community.

This was in sharp contrast to Ben who was at the mercy of his principal. Ben's tenure at his school was uncertain and depended on his principal's perception of him. Ben had returned to the teaching profession after a failed business venture. He had not secured a place for himself at the school and had weak affiliations to established networks of teachers. He was in an unenviable position in that in order to retain a post at his school, he had to accept any teaching subject that was thrust upon him. He tried to project an

image of commitment and dedication to the school by involving himself in numerous school activities that would enhance his reputation at the school. Ben however, received little real support from his principal who appeared not to take a personal interest in Ben's development. Ben's motivation for learning and membership of the TEMS community stemmed from his need to make himself valuable as an EMS teacher in his school.

Debbie and Ben represented extreme cases on the teacher learning continuum with regard to practice. An analysis of teacher learning as evolving practice, in terms of the analytical categories, namely, 'content knowledge', 'pedagogic content knowledge', 'questioning and rapport', 'pupil involvement' and 'teaching resources' revealed that Debbie had made substantial shifts in all stated categories, while Ben had made marginal shifts (see Table 6.5 below).

An aggregate picture of the TEMS research participants' changing practice is presented in the following table.

Table 6.5: A composite picture of teachers' learning in terms of teachers' evolving practice

Teachers' evolving practice										
	Before					After				
	Content knowledge	Pedagogic content knowledge	Questioning and rapport	Pupil involvement	Teaching resources	Content knowledge	Pedagogic content knowledge	Questioning and rapport	Pupil involvement	Teaching resources
John	C	C	C	C	B	A	A	A	A	B
Mary	C	D	C	C	B	B	B	B	A	A
Ben	D	D	D	D	D	C	D	C	C	D
Kim	D	D	C	D	C	B	B	C	B	B
Shirley	D	D	D	C	C	B	B	B	B	B
Beth	D	D	B	B	C	B	B	B	A	B
Debbie	C	C	C	C	C	A	A	B	A	A

Key to the table

A = Good/substantially present

B = Developing/adequate

C = Partial/scant/inadequate

D = Weak/poor/non-existent

From the above table, we see that teachers had progressed differently along the learning continuum in terms of their classroom practice. Participation in the TEMS programme had an uneven impact on individual participants. John and Debbie stood out as having made significant shifts in terms of most categories. Ben on the other hand had made marginal shifts. Mary, Kim, Shirley and Beth had made distinct shifts but these were not as profound as in the case of John or Debbie.

6.4 SECTION THREE

AN ANALYSIS OF TEACHER LEARNING USING WENGER'S CONSTRUCT 'IDENTITY': LEARNING AS BECOMING

In this section, an analysis of teachers' learning as *evolving professional identities* is presented. Teachers' changing professional identities are analysed in terms of the extent to which professional identities '*remained unchanged*', were '*marginal- maintained original identities*', reflected '*increasing, notable change*' or '*significant, profound change*'.

An analysis of my journal writings, post observation reflections, interviews and informal discussions revealed that teachers had started to describe their learning in terms of changed perspectives about who they were and what they were becoming. Learning entailed changing identities.

In the previous section we saw how teacher identities had changed in relation to their changing classroom practices. In this section, we explore teachers' practices and roles in

relation to their school and other communities and the effect this had on their changing professional identities.

6.4.1 Teachers' changing practices and roles

From Mary's second interview, we see that she spoke of 'increasing confidence' and having 'more direction'. This observation is significant for Mary who initially expressed much uncertainty about her role as an EMS teacher. Mary's increased confidence was not the kind of 'confidence' theorised by Graven (2002), as it did not stem from having mastered the subject content of the learning area, which Mary certainly had not. Mary was *relatively* more empowered to teach EMS than she was at the commencement of the project. She was also considering making EMS a larger part of her teaching load for the next year. She had begun to identify herself with the learning area and mentioned that she had started to 'enjoy' it.

Extract of final interview with Mary

- MM: In terms of your own learning, has this EMS project initiated learning for you?
- Mary: Most definitely, like I said the knowledge and I've got more direction in my teaching being more familiar with the subject, I feel more confident now, I feel like I'll volunteer to do more EMS next year, (laughs) because I enjoy it.

In the next extract, Mary described how she had begun to change the way in which she taught her pupils. She explained that she 'involved' her learners to a greater extent in the learning experiences she created and was 'happy' to be able to teach important values through her EMS lessons. She had also started to plan for EMS activities for the following year and appeared quite determined to follow through with her plans. Mary did not have any doubts that she wanted to remain an EMS teacher.

Second extract from Mary's final interview:

- Mary: I involve learners much more now than I did when I first started. I think that that is very important. And the one thing I felt happy about was when I

was doing the budget and where they were able to see where their parent's salary was going. They were able to see it - you know, involvement to such an extent where each one of them, I didn't force the issue. I drew their attention to it. You know they are quite young. You...they drew up their own budget. And the pupils said that they were so glad that they had done that and the next time their parents mentioned that the budget does not allow them to buy certain things they will understand.

Next year, we are thinking of having a market day. We wanted to have it this year, but the time factor was against us. Next year, definitely, I want to go for that and get them involved in making articles. To let them have the feeling of it, you know. It's very important.

In the next extract, Mary began to make concrete suggestions as to the activities that the programme could begin to plan for the following year. She was keen to begin to develop curriculum materials with a group of teachers. Mary had shown particular interest in this aspect and had identified herself as someone who could lead such a process. She raised the issue with the group on several occasions but teachers were reluctant to commit to the task, citing personal constraints as inhibiting factors. She did, however, initiate a discussion with a smaller group of interested grade four teachers.

MM: If you were to make suggestions about how we could improve the whole programme, what would you say?

Mary: In fact I was looking at it as something where we could start with like from grade four, and look at packages and look at our curriculum statement and say right these are the things they expect of us let's do a package with the assessment, slowly, just start with the first grade and then if that's a success, then take the next step because each grade will follow up into the next. So you don't do all together - we could focus on grade four and do a good job of it - test it and try it and review it.

Mary explained that she had 'grown' as a result of participating in the programme. For her it was an opportunity to embark on something 'new'. She had been teaching at her school for twenty-five years and described how she had been through 'difficult times', having been 'through the mill'. The TEMS project provided Mary with an opportunity to create or change her identity. In the next chapter, we see how Mary had begun to speak about definitive plans for her involvement and leadership in EMS curriculum development.

Extract from final interview with Mary:

Mary: I just want to thank you for giving me this opportunity of participating in the programme. I enjoyed it. I know I have grown a hell of a lot. And I enjoy anything new. For me my time was no problem because I am happy to do it, any time in the future as well. And if you need any kind of assistance you will be most welcome. I've had my difficult times as a teacher. I won't say that I haven't been through the mill. I have, but I just have to keep reminding myself that I am here for the children. They are the most important. And that's your purpose for being here so you focus on that. And every morning when I enter the school gate I tell myself that I'm here for the children and I try to do my best. There's a lot that goes on and sometimes you can't cut yourself away from it, but you have to quickly refocus. If you remember that it's the child that should get priority then it becomes so much easier to handle everything else. I've been here too long - twenty five years at one school is much too long.

Mary had shifted from being a peripheral member of the TEMS community to becoming a core member. Her changing professional identity as a teacher was evidenced by her commitment to the TEMS teacher development programme, its administration, planning and its curriculum. Her willingness to embark on curriculum development activities in EMS revealed a distinct shift in her identity as an increasing knowledgeable EMS teacher. Mary's evolving professional identity can be categorised as displaying 'increasing, notable change'.

Extract from Kim's initial interview:

MM: Okay, can I get into the EMS issue? How will you describe your knowledge of EMS, your knowledge of the subject matter?
Kim: Not, not good. I really need to get more back up here. It was not my choice to teach this subject. What can I do?
(Participant was uncomfortable with the question and was insecure about her knowledge of EMS).

In Kim's first interview, she expressed anxiety about teaching EMS and mentioned that she needed much help with the learning area. Her participation in the TEMS programme resulted in her developing a changed perception of herself. She had also developed an elevated status in the eyes of other EMS teachers. In the extract from Kim's final interview, she mentioned how she had become a source of information to people outside

of her school and the TEMS community. When placed in the position of someone 'in the know' she was able to explain what she had learnt. She did concede that she felt she was still not sufficiently competent to run a workshop on her own. Wenger (1998) notes that new identities are forged from new perspectives that may have either an unsettling or an encouraging effect on participants. He notes that this process could reveal progress, which may have remained, previously unnoticed. TEMS teachers (old-timers) suddenly see all that they have learned because they are now in a position to help other teachers. These shifts also created new demands as participants are suddenly being looked up to and are expected to know more than they are sure they do.

Of significance was Kim's changed attitude towards the project and towards her teaching of EMS. She appeared to be content to continue to teach EMS the following year and wanted to take her pupils to 'new heights'.

Kim: In fact we have many teachers in our family and I share the material with them, even close friends in my husband's school. Some of them heard that I'm attending these workshops, now they come to me for stuff. It's interesting because I then try to explain how we approach EMS in our workshops. Suddenly they're treating me like I know everything... With EMS I think I need to do a lot more before I can conduct a workshop on my own.

For next year, I would like to see the project continue, I need more guidance, I'd like to take my children to new heights with EMS next year.

In the extract below, Kim explained that she wanted EMS to make up a larger part of her workload for the next year. She had developed a preference for teaching EMS as opposed to teaching a variety of other subjects. At the same time, she had become 'a little bit more confident' and had also developed the ability to be able to focus on what she wanted to teach her pupils.

Extract from final interview with Kim

Kim: I want to do more EMS next year. I would like to focus on EMS next year, instead of doing a whole lot of different subjects that I don't enjoy.

Kim: I feel a little bit more confident now. I must admit that when I first started, I myself didn't know much, because it was something new. And I feel much more confident, and I know what to look for and what to incorporate into my lessons.

Kim's strengthening professional identity as an EMS teacher stemmed from her increased content knowledge and pedagogic content knowledge of the EMS learning area and the recognition she was starting to enjoy as a result of being a member of the TEMS community. Her professional identity as an EMS teacher was reflected in the new-found assurance with which she could talk about and make meaning of the EMS learning area. She had shifted from being a teacher who was coerced into teaching EMS to becoming an aspirant EMS teacher looking to extend her pupils. Kim can be regarded as having experienced an 'increasing, notable change' in her professional identity.

In the discussion that follows, I examine Beth's changing professional identity. Beth was a Black African teacher, teaching in a semi-rural area just outside the Greater Durban area. Over the years that she had been teaching at her school, she had developed close links with teachers from other schools in her district. In the extract below, Beth described the difficulty that EMS teachers at other schools in her district experienced. She explained that there were many teachers who needed assistance with EMS. Some teachers had approached her for assistance and she had obliged by sharing her resources and knowledge with them. She had already set up a planning meeting with the affected teachers in the area and was planning to start a monthly programme for EMS teachers for the following year. She noted the need for teachers to 'network so that we can help ourselves'. Here Beth alluded to the fact that new EMS teachers were expected to teach the learning area with little or no help from the Department of Education.

Beth's growing self-belief can be seen in her recognition of herself as someone who could serve as a 'facilitator' of EMS workshops in the future.

Extract from Beth's final interview:

- MM: Have you made any contacts with other teachers from other schools?
Beth: Yes, with the Kwamanzini people. We agreed that we are going to meet this year, so that next year we got a programme where we say that we can meet at least once a month so that we can have other educators because there are so many educators that are needing this kind of help and workshops. And I myself have found the workshops quite much useful, because I do not have an economic background. You will find that there are some educators who are saying that I am teaching EMS but I do not understand and also I don't know what to do. And you tell them, come and see me and I can just explain things to them, so they can teach something, you know, they can teach some EMS. They may try to understand it as well because in some schools the principals don't like to say that teachers can just leave the children and they can attend. There were teachers who approached me at Clermont. She said that she is teaching EMS but she is not clear enough with EMS but I promised to help her. I gave her some of the books and the materials that we got from the workshops. I made arrangements and agreed that we must meet at least once a month. We need to network so that we can help ourselves.
- MM: What opportunities have these workshops opened up for you?
Beth: (laughs a long laugh) Well I think I can now be a facilitator, but I'm not quite sure with that. But at least there are things I can help, because as were talking with the educators at Kwadengezi and Kwamanzini that we must try to meet and do some networking, so that we can help other educators in other schools. So its quite clear to me and them that if we just invite these people and explain to them what EMS is so that at least they can understand. So we can start right from the introduction, right from the beginning. At least for me I can just share what I learnt with others.

In the next extract from Beth's final interview, we see how Beth's status and position in her school had strengthened as a result of her EMS activities at her school. She described herself as taking the lead in discussions with the school on matters concerning EMS.

Whereas in the past she would rely on Ben to communicate through the head of department information to the principal about EMS activities, Beth felt empowered to communicate directly with the principal on matters concerning EMS.

Her school serviced a very poor community and often ran into financial difficulties because of parents' inability to pay school fees. She described how EMS projects

undertaken at her school had helped to subsidise the payment of the school water bill. Beth spoke with pride of the achievements of EMS at her school and had begun to identify herself as someone who could lead the development of EMS at her school and in the surrounding area.

- MM: In what way, if at all, has your relationship with other EMS teachers, other teachers or your principal changed over the past year?
- Beth: I take a lead now. I used to ask Ben, usually it was me who used to come and talk to him and ask him for advice. Now I just take the lead, and speak with Ben making suggestions, I even go to the principal on my own and make arrangements for me and Ben to attend. I don't go through my HOD anymore. I can find that even when I got some suggestions like when I said we must run a market day - we spoke to the principal. It was no problem. We had a good market day. We are selling vetkoeks, icecream, beads, juice and lots of things. And then he was so happy because sometimes it happens the parents are not you know, when it comes to paying the school fees, they are not paying quite well and then you will find that the principal is having a problem, maybe water. There is an amount of money that is needed then we had this market day of ours and then the money we just gave it to the principal and he said thank you so much.

Beth's changing professional identity can be seen in her increased commitment to developing the EMS curriculum, developing her pupils and contributing to the effective functioning of her school. Her increased knowledge of the EMS learning resulted in her identifying herself as someone who could contribute as an EMS teacher developer. The evidence suggests that Beth had displayed an 'increasing, notable' shift in her professional identity as a teacher.

Extract from final interview with Debbie:

- Debbie: In the past, Mrs X used to be in charge of EMS at our school. Since she is no longer teaching EMS, I have been playing the leading role here at our school. I'm in charge of EMS at our school now. We've developed our resource files and the other EMS teachers are getting along quite fine now. We discuss our problems with each other. We realised we can do it. We have plans for next year, big plans...

You know, before, I used to shy away from admin work, you know, it never attracted me. But now that I'm involved with the workshops, I find myself talking to the principal more often, especially when I need to organise and

fax the invitations and arrange for the refreshments and things. I think you just got to learn how to plan and organise yourself properly. You know, nothing misses his eye. He takes note of everything you do.

Debbie's evolving professional identity can be seen in the enhanced status she began to enjoy at her school as a result of the EMS curriculum development activities that she had begun to assume and her increased involvement in TEMS planning. Debbie had experienced an 'increasing, notable change' in her professional identity.

Extract from final interview with Ben:

MM: Do you think that attending these workshops have opened up other opportunities for you in school?

Ben: Ja, possible, since you know that I'm not a permanent teacher here, maybe the principal, and the teachers will say that this man has attended such workshops and a lot of information is with him, let us just bring him in. It has strengthened my position at the school. With you coming here to our school and inviting us to the workshops, the whole school knows that we are attending and these people are important (smiles), we are taken as that. This learning area is now something in this school. It has got a status.

Ben had thus grown in stature and was recognised as someone who was knowledgeable about EMS. He also commented about the increasing 'status' that EMS had begun to enjoy at his school.

6.4.2 A synopsis of Section Three

From the above discussion, we see that teachers had begun to identify themselves as *EMS teachers* and had begun to envisage a future for themselves at their respective schools as EMS teachers. They had begun to think about future plans for EMS teaching at their schools and spoke with increasing self-belief about their ability to make them happen. Their increased involvement in EMS activities had strengthened their positions at their schools. They were beginning to be perceived as becoming increasingly valuable to their schools. In the previous chapter, we saw how John had begun to receive recognition for his role in the TEMS project. He was viewed as a leader in EMS development in his district to the extent that he was invited to present workshops to teachers outside his

district. A similar phenomenon appeared to be unfolding with Beth and Kim as can be seen from the discussion above.

While a participant may not find it easy to become a radically new person in a community of practice, it is also not easy for a participant to transform herself without the support of the community (Wenger 1998). It is through their participation in social communities that each teacher created an identity that was informed by the interweaving of experience and social interpretation. Teachers' participation in the TEMS programme had resulted in them repositioning themselves within their own school communities. They had also started receiving recognition for their participation in the TEMS community from their school and other communities.

The table below presents a summative account of teachers' learning in terms of teachers' changing professional identities. We see that apart from Shirley, who experienced a 'marginal' shift in her professional identity, all other participants had revealed an 'increasing, notable change' in their professional identities, with John showing a 'significant, profound change'.

Table 6.6: Teachers’ learning in terms of changing professional identities

Teachers’ learning in terms of evolving <i>identities</i>				
	Unchanged identity	Marginal change – maintained original identity	Increasing, notable change in identity	Significant, profound change in identity
John				X
Mary			X	
Ben			X	
Kim			X	
Shirley		X		
Beth			X	
Debbie			X	

In the earlier discussion it was indicated that the implementation of C2005 in the primary school had made EMS a compulsory learning area. Teaching EMS was a novel undertaking for teachers in primary schools. Of significance in the above table is that five of the seven participating teachers had increasingly begun to align their pedagogic identities with the EMS learning area.

6.5 A COMPOSITE ILLUSTRATION OF TEMS TEACHERS’ LEARNING IN TERMS OF EVOLVING *MEANING, PRACTICE AND IDENTITY*

From the discussions in the above sections, it is evident that teacher learning had occurred, but in varying degrees for different teachers. Learning according to the three components of Wenger’s social practice theory of learning discussed in this chapter manifested itself differently for each research participant. While some teachers made significant shifts in certain components, others presented marginal changes. The table

below presents a composite picture of teachers' learning in terms of the three components of Wenger's theory discussed in his chapter.

Table 6.7: A composite table of teachers' learning in terms of meaning, practice and identity

	<i>Evolving Meaning</i> (Extent of change)					<i>Evolving Practice</i> (Extent of change)					<i>Evolving Identities</i> (Extent of change)				
	Not discernable	Limited/marginal	Moderate/modest/fair	Substantially notable	Significant/profound	Not discernable	Limited/marginal	Moderate/modest/fair	Substantially notable	Significant/profound	Not discernable	Limited/marginal	Moderate/modest/fair	Substantially notable	Significant/profound
John					X					X					X
Mary				X					X					X	
Ben		X					X							X	
Kim				X					X		X				
Shirley				X					X			X			
Beth				X					X						X
Debbie					X					X		X			

6.6 CONCLUSION

In this chapter I examined the nature of teacher learning in terms of Wenger's first three components of learning, namely, meaning, practice, and identity (Wenger 1998). In Section One, I illustrated the changing understandings and meanings (changing ability) of the TEMS research participants with regard to EMS and EMS teaching. In Section Two, a discussion of shifts in teachers' practice was provided. This section also focused on the distinct differences and similarities in teacher learning across two participants and how their learning was influenced by their biographies, career trajectories and local school

contexts. In Section Three, I examined how teachers' changing participation and teacher learning shaped and created personal histories of 'becoming' in the TEMS learning community and their increased alignment to other communities. A composite illustration of TEMS teachers' learning in terms of the three components of learning discussed in this chapter, namely, *meaning*, *practice* and *identity* was presented.

In the next chapter, the fourth component of learning, namely, *community* is discussed. This is followed by the final chapter that theorises teacher learning and teacher professional development from a teacher learning community perspective.

CHAPTER SEVEN

AN ANALYSIS OF TEACHER LEARNING USING WENGER'S CONSTRUCT 'COMMUNITY': LEARNING AS PARTICIPATION

7.1 INTRODUCTION

This chapter presents an analysis of the TEMS community in terms of Wenger's fourth component of learning, namely, *community*. I examine teachers' changing participation in the TEMS community.

In Section 7.2, community membership is discussed using the concepts 'core' and 'periphery'. Section 7.3 analyses the development of the community in terms of Wenger et al's five stages of community development. In Section 7.4, a discussion of the issues of 'community maintenance', 'communal resources' and 'brokering' is presented. Section 7.5 analyses the TEMS community in terms of extent to which the community subscribed to the notions of a 'shared repertoire', 'mutual engagement' and 'joint enterprise'.

7.2 AN ANALYSIS OF COMMUNITY MEMBERSHIP: CORE AND PERIPHERALITY

The expectation that all community members will participate equally in a teacher development programme is unrealistic. Participants fit into several categories and assume various roles within the community of practice, such as: a coordinator, who organises events and links community members; a core group of active participants who assume leadership roles; an active group of frequent but not regular participants; peripheral participants, members who occasionally take part; and 'lurkers' who learn from observation (Wenger, McDermott and Snyder 2002). It must be noted though, that the boundaries of a community are fluid, allowing members to move from core to periphery or vice versa.

Similar patterns of uneven participation outlined in the theory above were reflected in the TEMS community of teachers. These features are illustrated in the following table.

Table 7.1: TEMS membership

Type of Membership	Typical Characteristics	Number
Co-ordinator	Organised events, sent out invitations, administrative responsibilities, active membership but not a research participant	1
Core group	Active research participants involved in all aspects of the study. Also assumed leadership roles	7
Active members	Non-research participants, but active members in the TEMS community	4
Alternates	Attended every alternate session – varied levels of participation	6
Peripherals/lurkers	Infrequent attendance – limited participation	4
Impressed volunteers	Present at sessions for short duration to record their presence on the register – minimal participation	3
New members	First time appearance at a workshop session – participation levels and subsequent attendance varied	At least one new teacher per session

The TEMS community was a dynamic and constantly changing grouping of EMS teachers. Cindy, an astute and esteemed member of the community, played the role of coordinator. She took on the administrative leadership responsibility of the community and was intent on fostering the development of her colleagues. Wenger et al (2002) assert that the community co-ordinator is crucial to the community as she is a well-respected member who helps the community focus on its enterprise and helps maintain relationships between members.

As we saw in Chapter Six, the core group of research participants consisted of John, Ben, Beth, Debbie, Kim, Shirley, and Mary. These research participants regularly attended the workshop sessions. They actively participated in discussions and debates and helped shape the curriculum for the TEMS teacher development programme

... they identified topics for the community to address and moved the community along its learning agenda. This group is the heart of the community. As the community matures, this core group takes on much of the community's leadership... (and)... become auxiliaries to the community coordinator (Wenger et al 2002:56).

This phenomenon was particularly evident in the developing and strengthening relationship and bond that began to develop between Cindy and the core group. As the programme progressed, members of the core group began to assume greater responsibility for the coordination and functioning of the TEMS community.

Four other teachers were regular attendees but elected not to be part of the research project. Wenger et al (2002) referred to this next level of membership (outside the core) as the 'active' group. "These members attend meetings regularly and participate occasionally ... but without the regularity or intensity of the core group" (ibid.:56). These teachers were invited to participate in workshop presentations and feedback sessions. They were also involved in 'community maintenance' activities discussed below. As the programme progressed, some of these members engaged in more active participation as a result of the opportunities created for them. This phenomenon of inviting participation is important as "successful communities build a fire in the centre of the community that will draw people to its heat" (ibid.:58).

Six teachers attended alternate sessions. These teachers came from schools that had a policy of alternating their school's representatives. The non-appearance of previous attendees was also a phenomenon of the TEMS community. Three teachers made a regular habit of arriving for a session, signing in the register, waiting for fifteen minutes, then quietly exiting the venue. This is characteristic of 'peripheral participation' (Wenger et al 2002), a phenomenon where members rarely participate, but prefer to observe the interactions of the core and active members from the sidelines. "In a traditional meeting

or team we would discourage such half-hearted involvement, but these peripheral activities are an essential dimension of communities of practice ... people on the sidelines often are not as passive as they seem" (ibid.:56). In interactions with such members before and after TEMS workshop sessions, they often described the insights that they had gained from attending TEMS workshops and their attempts at applying this new knowledge to their classrooms. "Rather than force participation, successful communities 'build benches' for those on the sidelines" (ibid.:57). The TEMS coordinator and core members warmly embraced new members. This is reflected in the extract from a workshop observation report.

Extract from workshop observation report: October 2003

I was pleased with the attendance - three new faces. Cindy invited teachers to help themselves to the sandwiches and drinks. Teachers mulled around and chatted while enjoying their refreshments - expressing thanks to Cindy and her team.

The following extract from my journal dated 21 May 2003 reflects the movement of teachers in the TEMS programme.

Four new teachers joined the workshop. They had heard about the previous workshops and decided to join. These teachers were from Ex-DET schools in the Kwadengezi area. I welcomed them to the workshop. All these teachers indicated the need for assistance with EMS and EMS teaching. They were from very poor schools and did not have any commerce related books available. They were mainly focussing on HSS (Human and Social Sciences) and had come to the workshop looking for help. They wanted to know when the programme had started and wanted to be invited to future workshops.

These teachers were to become regular attendees, who later began to exhibit characteristics of active members. The arrival of new teachers was a feature of every session. Wenger (1998) notes that the existence of a community of practice does not depend on fixed membership. Participants may move in and out of the community and that an 'essential' aspect of any community of practice is the arrival of new participants. These new participants are integrated into the community. They engage in its practice and then perpetuate the practice. This aspect of practice is understood as 'learning'. The TEMS community of practice was able to provide peripheral experiences to newcomers

who did or did not want to become fully-fledged members. These teachers were offered various forms of casual, but legitimate access to the practice without subjecting them to the demands of full membership. It was able to provide opportunities for learning both for outsiders and for the TEMS community. Wenger refers to this as ‘multiple levels of involvement’ and notes that in a community of practice, mutual engagement can become ‘progressively looser’ at the periphery, with layers ranging from ‘core membership to extreme peripherality’ (Wenger 1998:118). The TEMS community was able to offer multiple and diverse opportunities for learning where different participants contributed and benefited differently, depending on their relations to the endeavour and the community.

7.3 AN ANALYSIS OF THE DEVELOPMENT OF THE TEMS COMMUNITY USING WENGER ET AL’S FIVE STAGES OF COMMUNITY DEVELOPMENT AS A FRAME

Some communities of practice could exist over many years while others could be short-lived but “intense enough to generate indigenous practice and transform the identities of those involved” (Wenger 1998:86). Such communities arise in the face of crises where people come together to deal with a situation. The TEMS community could be viewed as such a community that had formed in response to a crisis that new EMS teachers were facing, namely, having limited subject content knowledge and pedagogic content knowledge to teach the EMS learning area.

Communities of practice continually evolve. Wenger et al suggest five stages of community development: potential; coalescing; maturing; stewardship and transformation (Wenger et al 2002, see Chapter Two). They caution that while it is possible to discern different stages, progression from one stage to the next entails an evolutionary transition and not a distinct or sudden shift. While some communities go through one stage quite quickly, others may spend much time in the same stage or may even skip a stage. This phenomenon was evident in the development of the TEMS

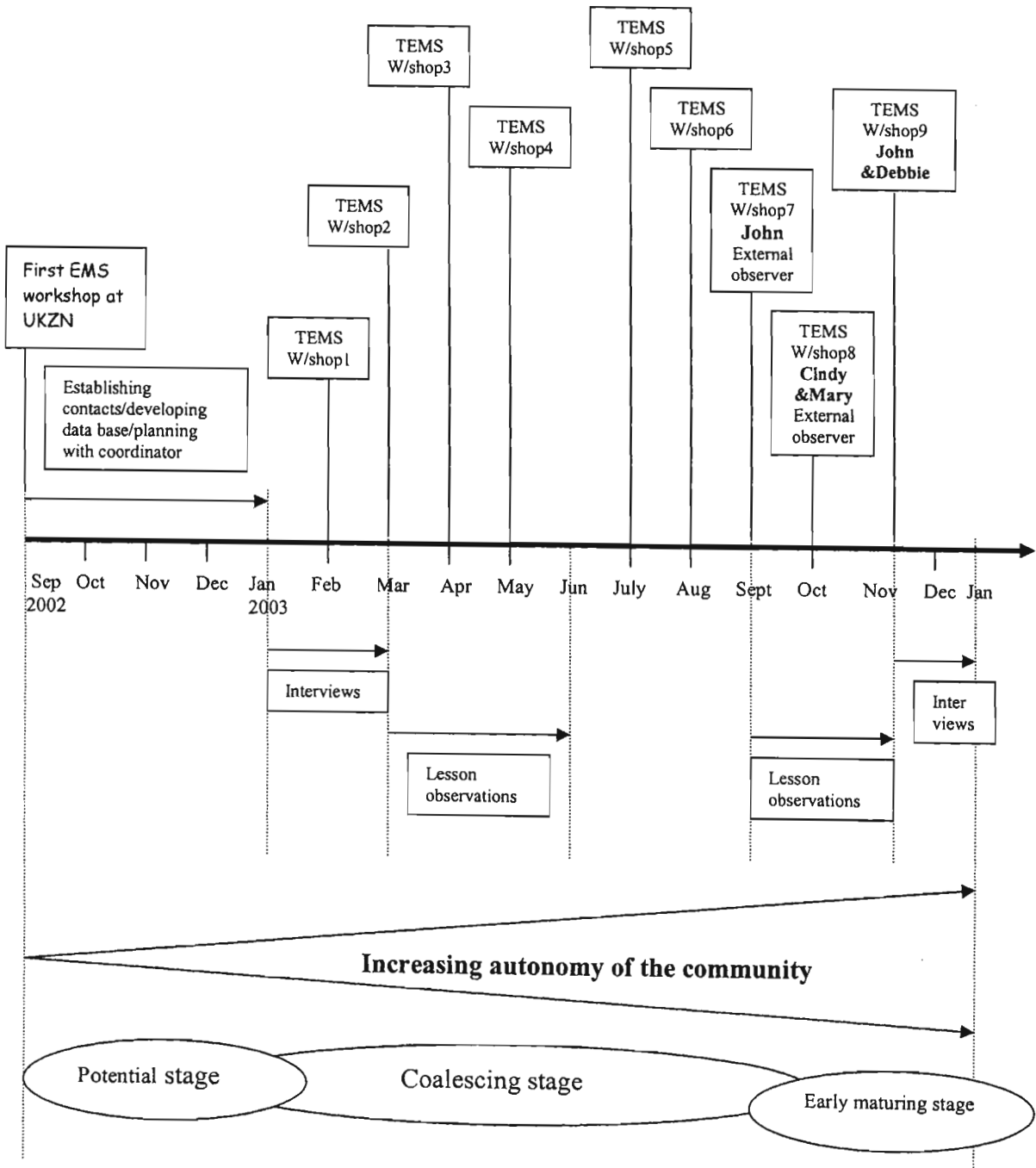
community. At any point in time, the TEMS community displayed characteristics that were associated with and straddled two or three stages.

In an attempt to track the development of the TEMS community, this section provides three narrative vignettes of the TEMS community. In the ensuing discussion, I analyse the development of the community in terms of the applicable stages suggested by Wenger et al (2002).

7.3.1 The early stages of development: the potential and coalescing stages

Figure 7.1 provides an illustration of the time frame of the stages of development of the TEMS community. It is a representation of how the project unfolded from the time of conception up to the point when data collection was terminated.

Figure 7.1: A timeline of the TEMS community development



The following extract offers a narrative vignette of a workshop held in the early stages of the TEMS programme.

Extract from workshop observation report (19 February 2003)

I was extremely grateful to Cindy of Eden Primary for organizing the venue. She was ready for me when I arrived and showed me to the venue- the school library. Cindy and her team paid meticulous attention to detail - the school library was well set up. It was a steaming hot and humid day in Durban. Cindy had set up four oscillating fans at strategic points - definitely needed on a day like this. She had organized cakes, biscuits and soft drinks. This was really appreciated by the teachers who had travelled from their schools to this venue. I was most impressed with the effort that Cindy and her team had put in to make sure that everything was in order. I was grateful to the principal for allowing the workshops to take place at his school

The library was about the size of two classrooms. It was very neat, well-lit room with books arranged carefully on shelves right around the room. Various charts, maps and other information posters appeared on the walls. I made use of the huge table that was at the front. I was able to arrange my numerous documents conveniently on the table so that incoming teachers could collect copies....

The heat of the day had taken its toll on some teachers who openly expressed how tired they were as they entered the venue. Most teachers were excited about the workshop and while we waited for more teachers to arrive, a few teachers engaged in discussions with me on what they were doing in their schools and how EMS was being organised at their schools. All expressed uncertainty about the learning area...

While some teachers had attended my first workshop in September 2002, there were many new teachers whom I met for the first time. I was keen to make a good first impression since out of this group would emerge the teachers who would work with me for the duration of the project ...

... The first activity for the workshop entailed making an envelope. Teachers were divided into groups of five. I provided all the material that was required (paper, a template, pencils, glue, scissors, rulers etc.). The requirements of the task were spelt out on a transparency, which I put up. Teachers were given twenty minutes to make as many envelopes as they could. Teachers seemed to thoroughly enjoy the activity. Some behaved 'like their own children', fussing, complaining, sharing the workload (division of labour), some taking control (leadership), quality control etc. The activity took longer than twenty minutes - I allowed it to continue as teachers were really beginning to enjoy the process and openly stated that they would try it with their classes, having done it themselves. There was much laughter and good humour as I 'planted' a trade union activist to try to disrupt the production process in each 'factory'. I was hoping that the participants would see the real commerce issues that were coming through....

Some teachers had embraced the task with much enthusiasm and were determined to make a good impression and have their 'factory' win the little competition that was created. A few teachers, appeared to simply go through the motions and bide their time. While busy on the task, teachers engaged in casual conversations describing how EMS was organized at their schools, who was teaching what and the fact that some schools were focussing more on HSS than EMS at present- because of the lack of 'information' in this learning area. Teachers compared grades they were teaching and the type of schools, the number of periods and how many teachers teaching EMS etc.

The second session involved reflecting on the entire process and exploring whether such an activity could be used in teachers' own classes. I pointed out that we had only begun to scratch the surface in that short session and that I had hoped that they would 'get a taste' of the learning area. I found it very difficult to give a full clear description of what the learning area was all about in the short period of time. I was mindful not to introduce too many new concepts too quickly....

The session drifted into an evaluation of the session. Some of the issues raised include the fact that many teachers were 'forced' to teach EMS. Many were teaching EMS for the first time. Some had tried a few lessons but were not sure if they were on the right track. Some wanted to know what the 'economic problem' was all about....

Teachers expressed their appreciation for the workshop and the materials. They were grateful to have 'some material to work from' but still expressed much uncertainty about planning for EMS teaching. I indicated that it was not possible for me to cover every aspect contained in the reading material provided and I asked them to consider it 'homework' which they could 'read tonight'. This statement was received with laughter and amusement as one teacher remarked " We haven't done this kind of thing in a long time' referring to the planning and reading 'task' that I had given them. None of the teachers had any formal background in EMS. Another issue that was raised was how to integrate EMS with other learning areas-said that they found this particularly difficult and needed help in this area.

Wenger et al (2002:70) describe the characteristics of a community of practice in its 'potential' stage in terms of an 'extant social network' that is drawn together by a 'common topic'. Prior to the commencement of the TEMS project, this formation of teachers was an 'extant social network' that had organised themselves around the need to share ideas on teaching EMS. "... the idea of forming a community is introduced into this loose network ... (and people) ... start to see their own issues and interests as communal fodder and their relationships in the new light of a potential community" (ibid.:71). Finding enough 'common ground' is the key issue at the beginning of a community, as what 'energises' a potential community is the revelation that other people face similar

difficulties (ibid.). In the above vignette, we see that 'common ground' was emerging amongst the group of teachers, namely, that they were coerced into teaching EMS, a subject that they knew very little about, an issue common to all teachers present. At the end of the session, teachers appeared to see the value of more systematic interactions, citing issues and topics that could be included in future TEMS sessions.

Another characteristic of the potential stage evident in the above vignette is the role of the coordinator. A good community coordinator may not necessarily be an expert in the field. She needs good interpersonal skills and the ability to identify the development needs of potential members. Her "primary role is to link people, not give answers" (Wenger et al 2002:81). Cindy's role in the early stages of the community's development entailed apprising me of the needs of the EMS teachers in the network, providing systematic coordination of the group's activities and 'formally' linking the network's members via personal invitations to the workshop sessions.

In the next vignette, we see how the community had begun to display elements of the second stage of development, namely, the *coalescing* stage.

Extract of workshop observation report (19/03/2003)

As usual, Cindy was well organised. She had the cakes and biscuits and cold drinks laid out on the table (smart tablecloth) and the desks and chairs all set up. The OHP was also ready for use. The library was very neat. Cindy had baked the cake herself and was keen for me to try a piece. I was touched by her commitment.

I was pleased that the people who had committed to the project were present. There were also a few new faces. I felt that the teachers were becoming more comfortable with me and with one another.

Cindy welcomed everyone and started off with a short story about geese flying in formation and the benefits from such 'co-operative' flying. I was thoroughly impressed with the aptness of the short reading and thanked Cindy for her very thoughtful selection. I re-emphasised the value of such co-operation and networking. The teachers also acknowledged this need.

In today's workshop, I was determined to encourage teachers to begin take ownership of the workshop. Teachers had to use the material that we had discussed to draft a short learning programme. Teachers were divided into groups according to the grades they currently taught. I provided a framework/guide /structure to assist teachers with the task.

Some teachers were initially quite nervous about this task. Once they got going in their groups, they began to settle down and have fun with what they were doing. They had to capture their drafts on transparency and present it to the group using the overhead projector ...

... It was interesting to note the roles that were assigned to the different group members. One male remarked that females had better handwriting than males and should therefore write out the transparency. Teachers grappled to put their ideas together. Many of the teachers were meeting each other for the first or second time and were still getting used to one another. They had to first make sense of the content knowledge and figure out what was appropriate to their own classes. A teacher remarked that there was no way that she would be able to teach that lesson in her class. "My class would never manage. Some of them battle to read. They want to be told every single thing."

Each group nominated a person to present their short learning programme And each focussed on a different aspect of 'natural resources'. Of note was that teachers drew on their own experiences to make sense of the new material they were engaged with. John for example, reflected on how he grew up in Newcastle which in the 70's and early 80's was regarded as a 'boom town', but once the coal reserves were depleted, the town started to lose skilled labour and people moved out of Newcastle to find jobs.

Mary, who earlier mentioned that she was nervous about 'speaking in front of a 'lecturer' came across very confidently in her presentation. She mentioned " It has been a long time since I've used one of these" (referring to the OHP). Presenters called on their group members to assist with points that they were not clear about.

Four very different aspects of natural resources were focussed on. These appeared to be related to what teachers already knew about these concepts. I was hoping that teachers would see that given the material (content), and working in a supportive environment, they would be able to develop meaningful learning experiences.

I realised that although teachers taught in schools that were relatively close to one another, they in fact rarely engaged in 'similar' programmes. Each school appeared to be 'doing its own thing' with each EMS teacher fitting into the school programme. Because each EMS teacher did not appear sufficiently confident and did not feel sufficiently competent about teaching EMS, the 'EMS agenda' in the school curriculum was not motivated for strongly as for example a 'Maths agenda'.

I thanked the teachers and again invited non-participating teachers to become a regular part of the programme. Research participants again expressed nervousness and anxiety at the thought of me observing their lessons. I once again tried to reassure them and indicated that I would take the cue from them as far as the timing of the lesson observations was concerned.

A community moves from the potential stage to the coalescing stage when it understands what its current resources are, and has a vision of where it wants to head. "...during this time it is crucial to have activities that allow members to build relationships, trust and an awareness of their common interests and needs" (Wenger et al 2002:82). Issues at play in the coalescing stage entail firstly; establishing the value of sharing knowledge about the community's enterprise; secondly; developing relationships of trust in order to discover the main issues at hand and; thirdly; discovering specifically what knowledge should be shared and how.

With regard to the first issue, that is, establishing the value of sharing knowledge, Cindy's opening analogy of 'geese flying in formation' and the benefits of such cooperative activity, and teachers' acknowledgement of this was an indication that community development was moving onto the coalescing stage. The issue of developing trust and discovering issues that were important to the group was a process that had started from the first of the TEMS sessions. Developing trust is a process and as such was expected to occur over a period of time. The group was also beginning to identify issues that were important to them, such as whether to focus on subject content knowledge or on pedagogical content knowledge, or on both. In a later discussion (section 7.5.2), I examine how the tension between subject content knowledge and pedagogical content knowledge had become a phenomenon of the TEMS sessions, and how this tension played itself out for different teachers and the group as a whole.

A serious challenge for community at this stage of its development is to strike a balance between developing relationships and trust and the need to demonstrate the value of the community. If the focus is mainly on building relationships, then the community runs the risk of collapsing before it even begins to provide value to its members. On the other hand if it overemphasises the immediate delivery of value, this may be at the expense of developing relationships (Wenger et al 2002). The period after the launch of a community, which Wenger et al refer to, as the 'incubation period' is a period when communities are most fragile. The reality of community work may cause people's energy for the community to wane and people may pull away from participating because of other

commitments. The role of the community coordinator is crucial at this stage in order to nurture the community to address its challenges.

The 'incubation period' was a particularly difficult time. The TEMS community spent between six and seven months in the incubation stage. Early in the 'incubation stage', three of the original group of committed research participants withdrew from the project citing various personal and school commitments. There was also much movement in and out of the community by teachers. The group of teachers that had become the core had moved from the periphery towards substantial involvement in the community's activities. Deeper relationships had begun to develop between the members of the core. The coordinator stuck steadfastly to her tasks and carried out her responsibilities efficiently and enthusiastically.

7.3.2 The coalescing and maturing stages

The following is a vignette of a TEMS workshop held in October 2003, ten months into the TEMS programme. The community was beginning to reflect characteristics of the *maturation* stage, while still displaying elements of the *coalescing stage*. A group of independent observers were invited to observe and write a report on their observations of the TEMS community (see example of independent observer's report in Appendix 5).

Extract from workshop observation report (October 2003)

I was quite impressed with the way the previous workshop had gone off. John's running of that session was excellent. I was satisfied that the group had started to really gel together and that they were prepared to take responsibility for how the workshops would unfold. I feel that part of my responsibility is to provide opportunities for this group of teachers to take control of the workshops themselves. From my interactions with the group, I could see that members were becoming more familiar with each other and as a result, a more trusting, non-threatening environment was starting to develop. I approached Mary and Cindy to lead the next workshop.

Mary and Cindy had arranged their own planning meetings and had proceeded without requesting my assistance. They had been quite resourceful and went beyond the materials that I had provided and sought materials that they regarded as useful to pupils'/ teachers' direct experience....

Cindy began the workshop with a thought for the day ...

"We are all leaders. This world was created round for a very good reason. It means that wherever you are, no matter in what position you are, you are always ahead of someone, behind someone - following or being followed - each of us is in a leadership role someone is watching us, someone is learning from us. - What are we teaching them? Like it or not you are a leader. What then is this thing called leadership"- stopped at that point and said that she would complete the quote at the end of the session.

Cindy began by explaining that the EMS learning area had many features, one being the RDP and sustainable growth and development. Noted that according to the NCS, this feature must be taught from grade 4 -7. " Learners need to understand very simply - sustainable growth, reconstruction and development as well as to reflect on related processes." According to the NCS, its LO2 and AS3" - explained that the focus of today's workshop was introducing this topic to learners and about exploring ideas for teaching in the classroom.

Cindy asked the teachers to break up into groups - said that their own class could have their own arrangement. - Depended on local conditions.

She distributed pictures to each group and posed the following questions:

1. Is there a problem?
2. What is the problem?
3. Reasons for the problem?
4. Possible solutions?

She handed out pictures/photos of different contexts -writing material; - newsprint - efficiently ensured that every group had all requisites. Groups began to study the contents of the pictures- discussion/ debates- interpretations of the pictures -some groups are more animated than others - some laughter - more discussions - hand movements, nodding of heads, smiles, disagreements - some groups busy making work-in-progress notes. More laughter/ humour in groups.

Group reports-

G1 - Ben was elected by his group to present. He began by explaining/describing what his group had seen in the picture. - class - congested suggested that the teacher in that class may not be able to cope. Suggested reasons for large classes school could have better buildings, lower school fees than other schools, shortage of classrooms and limited furniture.

Solutions - build more schools, employ more teachers, more funding - extend the school

G2 - John's report back

- Found many problems in the picture. He emphasised that the problems that educators may find in the picture may be different from the problems that pupils may see. Eg " If I showed this picture to children in my class (picture of a

dilapidated building)." Said that a dilapidated house may not be a problem for many of the children in his class, some of whom had lost their homes in recent fires.

- Described the dilapidated house - large family - looked like a vacated shop - perhaps vacated during group areas law enforcements.
- John explained that he found it very difficult to teach EMS in isolation. - Said that he taught it with LLC and HSS. In HSS he could look at the historical background of people using such houses.
- In LO, he would look at problems of cleanliness- noted the lack of sanitation- with such poor conditions one could expect/assume that in that particular area, the basic amenities like libraries, clinics, sports facilities etc will be non-existent. His group advanced the possible reasons for poverty
- 1. Cultural- "poor communities sometimes say 'children are your wealth'" emphasises that one should not pass judgement on poor communities that have large families.
- 2. Political - could discuss the oppression of the past and why people were moved into certain areas. - examine why people were forced to live under such conditions.
- 3. Lack of education and ignorance - emphasised that while a person may not have formal education, people can exercise "common sense" to deal with issues of cleanliness - if common sense does not exist, then educators need to develop solutions to help their children.
- Possible solutions
- 1. Education - balanced - both academic and social
- 2. Subsidies for housing
- 3. Job creation emphasised that the state could not 'give and continue giving' - people have to be taught to become self-sufficient - used the analogy of teaching a person to fish.
- 4. Health awareness - cleanliness around the house - HIV and AIDS awareness. - general health issues.
- 5. To force change if change is not happening- affected people need to group together to apply political pressure on local, provincial and even national government.
- John completed his group's presentation and received a loud round of applause.

....I was pleased and 'proud' of the manner in which the TEMS teachers had embraced the activities that were planned for the session. Teachers engaged with each other and with the tasks with enthusiasm, thoroughness, and attention to detail, seriousness - commitment to group and learning of others - showing genuine interest and concern.

In the above vignette, we see that the community still exhibited characteristics of the coalescing stage, in terms of building and strengthening relationships amongst members. Cindy persisted with her inspirational words about the important 'leadership' and 'follower' roles that teachers played and the value of cooperative engagement. The value that the community offered had been clearly established over the previous months and became evident in the increasing numbers of new teachers. In the maturing stage, the central issue "shifts from establishing value to clarifying the community's focus, role and

boundaries” (Wenger et al 2002:97). Once the community establishes a reputation of being able to effectively share knowledge, it may experience a growth in membership. The community’s work shifts from being more than a vehicle to share experiences and teaching tips to “developing a comprehensive body of knowledge that expands its demands on community members” especially the core group of members (ibid.). This phenomenon was beginning to manifest itself in the TEMS community whose activities were starting to become well known. As mentioned above, new teachers became a feature of almost every session. The core group had begun to assume greater responsibility for planning, organising and conducting the TEMS workshop sessions. They had started to devote more time to community matters, such as organising the body of knowledge that was developing, into some coherent form, such as booklets, transparencies, worksheets, notes etc. Wenger (1998) refers to this as ‘reification’. (‘Participation’ and ‘reification’ are discussed later in this chapter).

A community at this stage of its development has to deal with what Wenger et al (2002:98) refer to as the tension “between welcoming new members and focusing on their own interest”. In interactions with core members, they often raised the issue of how to deal with ‘new’ teachers who had joined the group and who were basically ‘starting from scratch’. Growing numbers can be a mixed blessing. “New members disrupt the pattern of interaction the core community has developed. They ask different questions, have different needs, and have not established the relationships of trust that the core group enjoys” (ibid.:98). Such disruptions can threaten the identity and intimacy of the community. The core members of the TEMS community and its coordinator were still grappling with this issue at the point when data collection for this research study had ended. However, in the final interviews with the TEMS participants, in response to a question about the future of the community, teachers made comments that ranged from organising the knowledge developed into workbooks etc. for wider dissemination, to forming whole new communities of EMS teachers in areas that there was a need (see Chapter Six).

The Stewardship stage involves the community maintaining the relevance of its role and purpose, keeping the 'intellectual focus' sufficiently engaging, especially for core members, and acquiring and developing new knowledge. It is a period of active involvement on the part of the core group. The core group in the TEMS community began to take responsibility to translate its learning into documents and artefacts that could be used by other members.

Although the TEMS community had not quite reached the fifth stage of development (the Transformation stage), it is useful to remember that the key issue for the community in the fifth stage is the rapid increase in membership (or a decrease in energy levels of the core members). The community could see itself transforming by returning to an earlier stage, or dissolving completely.

While Wenger et al (2002) provide a useful framework for analysing the development of the TEMS community, it is important to remember that their work is based on studies of learning communities in the corporate world. The development of teacher learning communities presents different challenges. The world of teaching and the corporate world have distinct phenomena that distinguish them. In the corporate world, according to Wenger et al (*ibid.*), the coalescing stage is characterised by three key issues, namely, establishing the value of sharing knowledge, developing relationships of trust, and discovering specifically what knowledge should be shared and how. The negotiation of these issues within a teacher learning community presents different challenges. On the issue of developing relationships of trust for example, we recall from the discussion in Chapter Two, that trust was a delicate issue that had to be negotiated and nurtured in a sensitive manner. Teachers are often understandably sceptical of the intentions of fellow teachers, principals, policy innovations and researchers. Wenger et al's framework offers limited insights into how relationships of trust and power play themselves out in a learning community. In a teacher learning community, these issues hold particular significance.

7.4 AN ANALYSIS OF THE TEMS GROUP AS A COMMUNITY OF PRACTICE

In the latter stages of the TEMS programme, my role in terms of my professional input at workshops began to change. I was beginning to play an increasingly diminishing role as organiser and presenter. In the early days of planning for the TEMS programme, I had given considered thought to how my role in the TEMS programme could progressively move from being a central participant (with a reduced researcher and observer status), to that of observer as participant (with my role as researcher being fore-grounded).

From the outset, Cindy, with the help of the core group of TEMS research participants, took responsibility for the administrative aspects of the TEMS programme. Their participation and sense of accountability to the TEMS programme can be seen in the meticulous and thoughtful manner in which they took up their tasks. The following quote from an independent observer's report depicts the nature of the commitment to the programme¹ (see Appendix 6 for an example of an independent observer's report).

"The facilitator (referring to Mary) was well prepared and a good team player."

As the TEMS programme progressed the core group began to take on an increasing role with regard to the professional development aspect of the TEMS programme. They began to hold their own planning meetings in which ideas for TEMS workshops were discussed. These TEMS teachers began to determine the structure and outcomes for each session. Presentation materials and teaching materials were also thoughtfully developed and packaged. Teachers had gradually begun to take ownership of the TEMS programme.

From the above extracts we see that the TEMS teachers had begun a process of 'mutual engagement' and had started to develop a 'shared repertoire' to facilitate the pursuit of their 'joint enterprise'. A detailed discussion and further evidence thereof is provided later in this chapter.

¹ A group of independent observers (university academics) were invited to record their observations of a TEMS session (October 2003). These educational researchers were briefed as to the nature of the research project.

7.4.1 About community maintenance

Wenger describes the concept ‘community maintenance’ as being an ‘intrinsic part’ of any practice. However, because it may be much less visible than the more instrumental aspects of that practice, it can be easily undervalued or not recognised (Wenger 1998). In the TEMS practice, Cindy’s and her team’s unwavering and generous spirit of providing refreshments at every TEMS workshop session was certainly one way in which community maintenance was achieved. TEMS workshops were conducted after school hours. Teachers often arrived at the sessions feeling really tired. They would often comment on how welcomed they were made to feel. A hot cup of tea or coffee on a cold day or cold softdrinks on a steaming hot day in Durban certainly contributed to the functioning and the maintenance of the TEMS group. Of significance was the extent of the care, and pride with which this task was performed. The intrinsic desire of the organising team’s efforts to treat their colleagues with respect and dignity was a crucial factor in maintaining and building the TEMS community. Care and moral support that results from collaboration is “...central to many women’s ways of working” and is often a neglected aspect in academic writing about collegiality (Hargreaves 1995).

7.4.2 Communal resources, participation and reification

The availability of resource material in the form of workbooks, photocopies of information extracted from various sources, newspaper clippings, lesson plans generated from TEMS workshops, personal lesson plans and work programmes volunteered by TEMS teachers, case studies, test and examination papers, was a distinctive feature of the TEMS programme. Old timers and newcomers always left every session with a substantial amount of written material. The availability of such resources to teachers, who were ‘starved of material’ as one teacher described it, was an important ‘draw card’. This sharing of resources was crucial to the building of this community. This, according to Wenger (1998), facilitates the process of knowing, which involves what he refers to as active contribution to and participation in social communities. It was important to value the work of community building and ensure that participants had access to the resources

necessary to learn what they needed to learn in order to make decisions that fully engaged their own knowledge base.

The dilemma of making available too much of material to teachers at workshops to appease teachers' need for 'handouts', (worksheets, booklets, packages and lesson plans etc.) versus the need for teachers to participate in the practice of the community can be analysed in terms of Wenger's concepts of 'participation' and 'reification'. It was about striking a balance between creating opportunities for teachers' active engagement with materials, and the development of their own materials and simply 'spoon feeding' teaching material for use by teachers. Teachers in their quest to make meaning of economic phenomena needed some material to start from, but also needed to engage with the material and develop their own material instead of simply 'receiving' and using what someone else had developed.

Negotiation of meaning had to be viewed as a being a dual process of participation and reification (Wenger 1998). It leads to trade-offs involved in the complementarity of participation and reification. Meaning was likely to become a problem in practice if too much reliance was placed on one at the expense of the other. If participation prevailed, that is, if most of what matters was left unreified, then there may not have been enough material to anchor the specificities of coordination and to cover diverging assumptions. If reification prevailed, if everything was reified, but with little opportunity for shared experience and interactive negotiation, then there may not have been enough overlap in participation to recover a coordinated, relevant, or generative meaning.

7.4.3 Brokering

While teachers belonged to the TEMS community, they were also affiliated to other communities. Cindy was the co-ordinator of the TEMS project, member of the Mathematics committee and the head of the Languages committee in her region. Mary and Debbie were members of both the Mathematics and the Languages committee. John was the regional Mathematics co-ordinator and a member of the Languages committee.

Cindy's role of co-ordinator and presenter can be explained using the concept 'brokering' (Wenger 1998). She was able to draw on experiences in other groups (Languages Group) to inform the activities of the TEMS project. She quoted instances where she used material from the TEMS project in the languages groups.

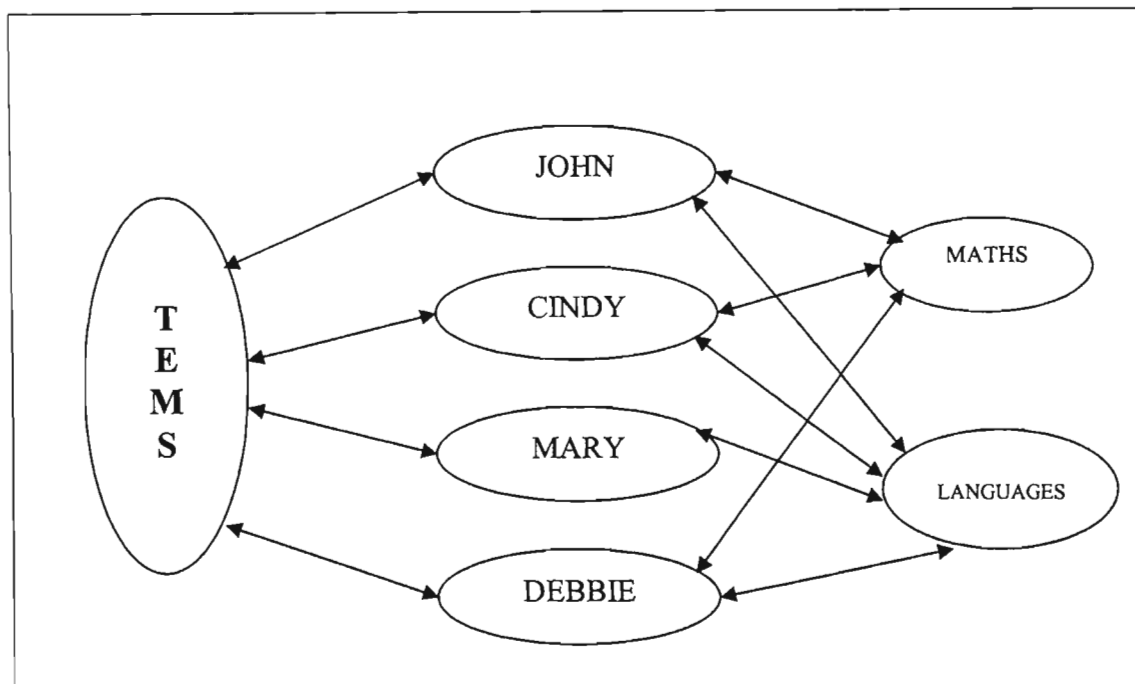
Extract from workshop observation report (17 September 2003)

Cindy: In our last LLC meeting, I took out an extract from one of our EMS booklets. We discussed how EMS could be integrated with the languages. It was interesting because we used the case studies. It's a good way to consolidate new concepts...

Cindy was an important member of the TEMS project and was respected by the other TEMS teachers. When individuals move across boundaries, they may take on the role of 'broker', imparting information across communities and creating connections (Wenger 1998). Brokering occurs when participants with 'multi-membership (of different communities) transfer elements of one practice into another. This is a common feature of the relation of a community of practice with the outside. Brokers make new connections across communities of practice; facilitate co-ordination and open new possibilities for meaning. It is a complex process of translation, co-ordination, and alignment between different perspectives that requires the ability to link practices by facilitating transactions between them, and to cause learning by introducing into a practice, elements of another. Brokers use their ability to carefully manage their coexistence of membership and non-membership to present different perspectives on issues. Such individuals would have had to earn sufficient legitimacy to be taken seriously (Wenger 1998).

In the following representation, we see the brokering relationships between the TEMS community membership and membership of other communities.

Figure 7.2: Brokering relationships



7.5 MUTUAL ENGAGEMENT IN A JOINT ENTERPRISE USING A SHARED REPERTOIRE

Practice serves to bring coherence into a community, as it is through practice that members in a community form relationships with each other and with their work (Wenger 1998). In order for a practice to generate coherence within a community, the essential characteristics of ‘mutual engagement’, ‘joint enterprise’ and ‘shared repertoire’ must be present. The discussion that follows provides an analysis of the degree to which these characteristics played themselves out in the TEMS project.

7.5.1 Mutual engagement

Membership of a community is a matter of mutual engagement, and it is this mutual engagement that defines the community (Wenger 1998). In the TEMS community, mutual engagement would refer to the fact that teachers in the community of practice

were engaged in a common negotiated activity. Practice would thus be the result of teachers engaged in activities which they had negotiated with each other.

An essential component of any practice is essentially what it takes to cohere to make mutual engagement possible. The kind of coherence that transforms mutual engagement into a community of practice requires concerted effort and without mutual engagement, a community is more likely to resemble a network of individuals instead of a single community of practice (Wenger 1998). For mutual engagement to occur, the conditions for such engagement must be conducive for such engagement. As stated above, the models of teacher development adopted in the TEMS programme was such that teachers could contribute to, and shape the activities of the TEMS programme. Teachers were also encouraged to contribute to discussions that arose in the TEMS workshops. The following example is typical of many of the interactions and exchanges that occurred during the course of the TEMS programme. A teacher would recognise another teacher's question or comment and then attempt to advance more information on the issue.

Extract from workshop observation report (April 2003):

Kim's idea about linking geography or HSS with EMS is important. For me I try to do this with my kids by using what I know. For example, I grew up in Newcastle, a coal-mining town. It used to be called a 'boom town'. When the coal reserves were exhausted, the town started to lose skilled labour and many people moved out of Newcastle to find jobs. Now, there's a lot of geography and EMS that we can bring in here. It depends on how you want to look at it.

In the above extract, John had recognised the issue of integration raised by Kim. He acknowledged it, and identified it as important and proceeded to provide additional information on the issue. This kind of mutual engagement and participation became a common feature of the TEMS workshops. The focus on participation implies that for individuals, 'learning' is an issue of engaging in and contributing to the practices of their communities. Although individuals may appear to work individually, and though their jobs are primarily defined and organised individually, they are in fact important to each other. All participants in the TEMS project reflected on the importance of the 'people' in

the group. Wenger (1998) notes that individuals act as resources to each other by exchanging information, making sense of situations, sharing new tricks and new ideas.

In the next extract, we see another example of a frequent exchange that occurred between teachers. Teachers would often pose problems or questions about issues that they experienced difficulty with. In the early stages of the TEMS project, teachers would often look to me to provide the 'answers' or possible solutions. My intention at the outset was not to play the traditional role of provider of 'answers', but to rather have the group develop their own solutions to the questions they raised. As the members of the TEMS community began to feel more comfortable with each other, teachers began increasingly to take on this responsibility.

Extract from workshop observation report (30 July 2003):

I can understand what Shirley is talking about. I have the same difficulty with my children. When it comes to abstract concepts in EMS, the children, they have a problem with that. You know, the richer children receive pocket money; they can understand what it means to budget. But with most of my children, the concept doesn't exist. I made up my own simple case studies, you know; and like I get them to determine whether people are making good decisions about how to use their money. It's like beginning to make sense to the children. When I do my presentation I'll show you how I used them.

Wenger (1998) notes that mutual engagement in a community of practice does not entail a homogenous grouping; in fact, the mutual engagement in a practice is more productive when there is diversity in the grouping. This community (TEMS) could well be described as an 'ill-defined' group of people brought together by varying reasons/motivations. They comprised male, female, young and old, representing different ethnic, racial and cultural backgrounds; and they were also teaching in vastly different contexts, with different problems and aspirations. What made a community of practice of this medley of people was that they were teachers engaged in personal and professional development as they made it happen within the TEMS project.

Not only are members of a community of practice different, but also working together created differences as well as similarities. In as much as they developed shared ways of doing things, members also distinguished themselves or gained a reputation. Each participant in a community of practice finds a unique place and gains a unique identity, which is both further integrated and further defined in the course of engagement in the community of practice (Wenger 1998). In TEMS for example, John was seen as the joker, with a sense of humour, relating urban legends and other quaint stories and teaching experiences, while Cindy had a more purposeful and businesslike disposition. She took care of the logistics of the programme and made sure that events proceeded as planned (Cindy's organisation and coordination skills were reflected in the vignettes in 7.2 above).

Evidence of John's approach can be seen in the following extract taken from a workshop observation report dated 17 September 2003. John was introducing the topic 'inflation' to the TEMS group.

Extract from workshop observation report: 17 September 2003:

...John paused to reflect on his own past - early childhood (obviously felt comfortable to do this. He described himself as 'coming from the sixties' (caused some laughter). - reflecting on his age. He described how on his first day of school, his parents had dressed him and taken a photograph and had given him two and a half cents as pocket money - (again some laughter)...

He explained that when he mentioned this to his current pupils in his lesson, his pupils laughed out loud, asking what could be bought with two and a half cents. He said that he went on to explain that back in the sixties, two and a half cents could buy four sweets, two bubble gums, and a packet of nuts. He noted that similar sweets of a poorer quality costs much more today...

... John then moved on and asked the group to reflect on spending over the last decade. He described that he had a 'sweet tooth' "I don't know if you have a sweet tooth but I do. Every sweet that lands on my desk goes into my mouth - I have a high dental bill!" (laughter)

Mutual engagement involved not merely the competence of an individual participant but the competence of all participants. Mutual engagement draws on what participants do and what they know as well as their ability to connect meaningfully to what they do not do and do not know, that is, the ability to connect meaningfully to the contributions and

knowledge of others. It is therefore important to know how to give and receive help. Developing a shared practice depends on mutual engagement (Wenger 1998). The following extracts from a workshop report describes how this had begun to happen in the TEMS programme.

Extract from workshop observation report (30 July 2003):

After the brainstorming exercise, teachers were grouped according to grades they taught and were required to develop a plan to teach two/three lessons on the topic. Teachers got down to the task with enthusiasm. It was interesting to note discussions on what level to pitch the lessons, explanation and discussion of the different contexts in which they taught and the kinds of lessons that were likely to succeed in each school.

Teachers appeared to become more adept at planning these lessons. It was interesting to note the different angles from which teachers approached the different topics. This had a lot to do with their personal experiences with the topic. They were able to build on each other's ideas, and make suggestions to overcome possible difficulties that individuals may experience. Teachers were able to develop suitable lesson outcomes for the learning experiences that they drafted. Groups also made suggestions about ways of assessing the sections that they proposed teaching.

Teachers began to understand and take responsibility for what made life difficult for their fellow participants. The TEMS participants began to understand that making their work lives bearable was part of their joint enterprise. Wenger termed this a "communal regime of mutual accountability" (Wenger 1998:81). He notes that the regime of accountability becomes an integral and pervasive part of the community of practice and because of its very nature it may not be something that anyone can articulate very readily. In the final interviews, however, teachers were asked what they thought were the benefits of joining the TEMS community. There were varied responses.

Extract from final interview with Beth:

Beth: Ja it's very good to work and learn in a group because you get a lot of ideas from other educators especially when there is something that we don't understand, then it is easy when we work in a group and we can ask questions to the group, like I'm not clear with this one, how can you help me with this one and then you just finding out from your group and even I take it to the class, the learners they just enjoy to work in groups, bringing out points. And also it's nice to mix and work together.

Beth: I enjoyed coming there and meeting other people, oh the food was so nice (laughs). And also you learn about other people and their cultures because when we mix there you will find there is someone who will speak about something, then you realise that other people do things in this way. It's not like my culture. In my culture we do it like this. It helps because you begin to respect other people's cultures.

There was the guy who said that his mother washes her hair with sunlight (soap), and her hair was so nice. Well with us today, we like new things that count, but sometimes they are expensive, but these old things they are more cheap, and we just begin to say oh no this thing is too old for me.

Extract from final interview with Mary

Mary: Yes definitely, I've enjoyed it and like I said, I'm a person always looking for new experiences, things like that and I felt like I love to move out of my own school environment and I thought associating with this programme here for EMS, its actually, I met you, I've got to know more about the programme itself and also all the other teachers that were there.

Mary: I think it was very very beneficial to me. You know for a teacher who is just starting to teach EMS, like I've gained knowledge eh, skills as well, different ideas that we shared while we were there, the little projects, you know the presentations that we did. We could see that how one aspect could be interpreted by different groups differently and how new ideas came out and how you would look at it from different perspectives. And I would say I got a lot of direction in my teaching of EMS.

MM: Were there any particular aspects of the workshops that you found useful?
Mary: I think the sharing of ideas, you know, being a new subject, and the little, eh, the activities, that we engaged in. No it wasn't just a talk type of thing. We did things. And I think when you do things with others you see like the perspective of others, other people, maybe you didn't see it that way before, so like that was a good thing. And the other way of eh like, different approaches in the classroom. I may have approached that topic in a certain way, but being at the workshops I think I learnt a lot from the others. Ja.

MM: How do you see the role of other teachers in the group in your own learning?
Shirley: Like what I would say for the future as well, is that this thing could catch on, because we had teachers outside our own circuit that also came to the workshops and I'm sure they have approached you now to come to their cluster of schools. You will find that this thing can actually become quite a big undertaking.

- MM: Have you established contacts with other people?
Shirley: Yes, within our thirteen schools, most definitely, we're always networking, and I find like networking has really made this whole situation so much better, we're not working in isolation anymore, we're taking things from everybody, new ideas and whether its sharing worksheets, or what ever, resources, or just having a chat about you know, how we could approach teaching a topic in the classroom. I think it has really helped.
- MM: Do you find that there is a sense of collegiality amongst people?
Mary: I think, eh, teachers are coming out of that eh you know of being just alone and doing things alone. They realise now that everything is teamwork and if you use a number of people your work actually becomes lighter. Because you must look at it as something from which you are going to learn. But you also have those people who say, I know but I won't give. We have that, I won't say no, we have that in all our schools, but now, the move is teamwork.
- MM: How have these workshops been different from the ones run by the department?
Mary: I think that with our workshops, there is more participation, it was like a two way process, it wasn't a one-way process where we were just given the information. With the same group of people meeting, we shared our materials and even met outside the normal workshop times. Like I said this thing can spiral into something really big. Because it's an interesting learning area and there are so many things you can do with it.

Extract from final interview with Ben

- MM: How do you see the role of the presenters?
Ben: Ja, ja, it's wonderful, the way you run these workshops, it's really wonderful and the other people who presented , I think they were good. They show that they know and also they want to share their knowledge. And the way you run it it's wonderful really. Because we are all given a chance to be a part of it, to go in front and present. That's wonderful.
- MM: How is this programme different from other workshops that you might have attended in the past?
Ben: Yes it's different, it is different. In other workshops, it is only the facilitator who will talk, for the whole workshop. With these workshops, we are given a chance to express ourselves. It is useful, very useful. Because you cannot just sit there and listen to one person for an hour. You will get nothing from that, because if you are given a chance to express yourself, he will see that these people have just understood.

Extract from final interview with Kim:

MM: How has this programme that you've attended been any different from other programmes or workshops that you may have attended in the past?

Kim: Ja it was different from the many workshops I've attended over the years. Here you have educators coming from different schools, different environments with different experiences. There was a lot of scope for sharing of ideas, experiences, and it really exposed us. Where we had to do practical work, I found that very stimulating.

MM: Did you find the workshops useful, beneficial? Can you explain how?

Kim: I found the workshops useful, especially the group sessions, the interaction with educators from other schools and eh, in that way we were able to gauge the way they approached it and add it to our experiences.

In the above extracts, teachers remarked on their positive experiences in the TEMS programme. Recurring sentiments were those of 'meeting people', 'working in a group', 'sharing ideas', 'participation', gaining knowledge and skills and networking. This was a reflection of the extent of mutual engagement that had occurred in the TEMS programme.

7.5.2 Joint enterprise

The extract from my journal cited in Section 7.3.1 above reflected the spirit that the TEMS co-ordinator Cindy and the core group of research participants envisaged for the TEMS community. In the extract, Cindy, the co-ordinator emphasised the importance of pursuing the joint enterprise through the analogy of geese flying in formation. This was an appropriate message at the time and was supported by all teachers in the TEMS programme.

The negotiation of a joint enterprise that keeps a community of practice together is based on three premises (Wenger 1998). Firstly, the enterprise is a result of a collective process of negotiation that reflects the full complexity of mutual engagement; secondly, the enterprise is defined by the participants in the very process of pursuing the enterprise; and thirdly, the enterprise creates among participants relations of mutual accountability that become an integral part of the practice. In the TEMS project, the enterprise was personal and professional development in the field of EMS education.

The following extract from a workshop observation report (16 April 2003) describes how teachers negotiated what they felt was important to them and what they wanted to achieve as a result of participation in the TEMS programme.

At the beginning, I asked teachers to constantly reflect on what they were getting out of the programme. I also questioned what they were expecting from the programme. They were clear about the fact that they wanted information on different EMS topics; they wanted to develop insights into the topics, a deeper understanding of the concepts related to the topic. They also wanted to explore possible ways of teaching the topic to different grades. They also wanted some written material on the topic.

While the TEMS study set out to deepen teachers' subject matter knowledge of EMS, in their mutual engagement on issues and in discussions, the TEMS group often unconsciously shifted the emphasis as they negotiated their discussions. Wenger (1998:82) explains that defining a joint enterprise was a process and not a static agreement. It produces relations of accountability that are not just fixed constraints or norms. These relations are manifested not as conformity but as the ability to negotiate actions as accountable to the enterprise. A further discussion on the tension between competing expectations will be provided later.

The third premise with regard to the negotiation of the joint enterprise refers to the ability of the enterprise to create participants' relations of mutual accountability. In the next extract from a workshop observation report, we see John and Cindy's commitment as well as sense of responsibility to the TEMS programme.

Extract of workshop observation report (August 2003):

When I arrived at Eden primary, Cindy was ready for me as usual. I welcomed the glass of coke and the sandwich that was reserved for me near the ohp. I was glad to see that some teachers had arrived before me and were busy updating each other on developments since their last meeting. Cindy was juggling two commitments at the same time. Her pupils were involved in a chess tournament in the adjacent building. John had also transported his pupils to the chess tournament. He made a point informing me that he would drop off his pupils at his school but would definitely return for the workshop. I was thoroughly impressed with John's commitment. His school was about twelve kilometres away. He returned to make a valuable contribution to the workshop. John was always full of questions and was keen to

share his classroom experiences with the group. He had a good sense of humour and easy attitude, which helped people to relax.

John and Cindy's allegiance to the TEMS group was indeed remarkable. It would have been easy for John or Cindy to have tendered their apologies for that session and continued with their other commitments. However, they chose to be present despite other demands on their time.

Communities of practice are 'not self-contained' entities, but develop in larger historical, social, and institutional contexts, with specific resources and constraints (Wenger 1998). The TEMS community of practice had developed in response to radical curriculum change that was beyond the control of the TEMS teachers. Although the practice of the community may be influenced by conditions outside the control of its members, the practice was still produced by the participants within the resources and constraints of their situations, and was therefore their response to their conditions. TEMS teachers determined the duration and timing of the programme and the extent of their participation and involvement in the practice of the community. Participants are, however, certainly located within a broader system or institution and the influence of such institutions can indeed be pervasive. A community of practice can respond to the conditions imposed by the institution in ways that are not determined by the institution. To do what they are expected to do, participants produce a practice with an "inventiveness that is all theirs" (Wenger 1998: 80). Their inventive resourcefulness applies equally to what the institution probably wants and also to what it probably does not want. In terms of what the institution (in this case the Department of Education) would want, that is, competent EMS teachers, the TEMS teachers had developed EMS knowledge and pedagogic skills in order to perform their jobs as EMS teachers. However, in developing their own community of practice, they often scorned the efforts of the Department of Education by indicating their unwillingness to take part in department run workshops and expressed a general dissatisfaction with the nature of such workshops. The following extract from final interviews with Shirley is an indication of teachers' negative attitudes towards their employer, the Department of Education.

- MM: How many EMS workshops have you attended that were run by the department?
- Shirley: One last year. It was OBE training but we didn't touch on EMS. They just told us OBE and it was more HSS. And at the end of that HSS workshop, they gave us a brief feedback on what is EMS, that's all. No one sat there and told us how to teach EMS and what is EMS. So technically speaking, we did not have a workshop on EMS, except the one I had in school with you. That was the first one that I was exposed to.

Participants developed and produced a practice to deal with what they understood to be their enterprise. Their practice as it unfolded belonged to their community in a fundamental sense. So although conditions, resources and demands may have influenced the community of practice, it was the participants who *negotiated* these constraints and shaped the practice.

The TEMS teacher learning community also presented tensions that the participants had to negotiate. The essential tension of professional development, that of curriculum development *and* deepening subject matter knowledge was prevalent in the TEMS community. Curriculum development and the development of pedagogic content knowledge focuses on the improvement of student learning, while teachers' attempts at deepening subject matter knowledge focuses on teachers as students of subject matter. Some teachers (Shirley and Kim in particular) were essentially concerned with the direct applicability of their learning to their classroom practice, and could be viewed as product driven. Grossman et al (2001) note that the occupational reality of teaching does not permit the time and space for teachers to read without an immediate apparent goal. Reading and turning newly acquired subject matter knowledge into concrete ideas for teaching certainly is a challenge for most teachers. Others teachers, (John and Debbie and Mary) were also interested in personal intellectual renewal. They saw the need to acquire subject matter knowledge through reading. This tension became more overt in the mature stage of the community's development. Participants with competing goals generally kept each other in check. Seeking an appropriate balance between presenting information and facilitating teachers' construction of new practices was a dilemma that was dealt with and negotiated by the core group in their planning for the TEMS workshop sessions.

7.5.3 Shared repertoire

As the programme continued, the TEMS teachers, in the pursuit of their enterprise, began to create resources for negotiating meaning. The TEMS community of practice had begun to develop elements of a shared repertoire that included routine ways of doing things (signing the register, arranging the seating, clearing up after the session). They used words and phrases that were peculiar to this particular community such as ‘look for the cycle’ (meaning the economic cycle), EMSLOs (referring to learning outcomes for EMS). The telling of stories was a regular feature, which had become part of the community’s practice. Wenger (1998) notes that a shared repertoire combined both reificative and participative elements and included discourse by which members created meaningful statements about the world. The term ‘repertoire’ emphasises both the rehearsed character of the shared resources and its availability for further engagement in practice. Other manifestations of a shared repertoire in the TEMS community included developing common understandings and use of the concepts ‘scarcity problem’; ‘choice’; ‘budget’; ‘the economic problem’; ‘the economic cycle’ etc. As a resource for the negotiation of meaning, the repertoire of the community of practice reflected a history of mutual engagement. Reified elements of the community included documents, lesson plans, guides to lesson planning, simplified extracts of the four learning outcomes in the EMS learning area; case studies; games, newspaper articles etc.

Wenger (1998) notes that for the three dimensions of a community of practice; namely; a community of mutual engagement, a negotiated enterprise, and a repertoire of negotiable resources, the characteristics listed in the table below have to be present to a substantial degree.

From the above analysis of the TEMS community in terms of Wenger’s three dimensions, *Wenger’s guiding criteria were substantively present for nine of the fourteen categories*. Five categories reflect a developing or emerging trend. None of the criteria are completely absent (see Table 7.3 below).

Table 7.2: Criteria for the emergence of a community

(P = Substantially Present; D = Developing; A = Absent)

Criteria	P	D	A
Sustained mutual relationships - harmonious or conflictual	x		
Shared ways of engaging in doing things together	x		
The rapid flow of information and the propagation of innovation	x		
Absence of introductory preambles, as if conversations and interactions were merely the continuation of an ongoing process.		x	
Very quick set-up of a problem to be involved	x		
Substantial overlap in participants' descriptions of who belongs		x	
Knowing what others know, what they can do, and how they can contribute to an enterprise	x		
Mutually defining identities		x	
The ability to assess the appropriateness of actions and products		x	
Specific tools, representations and artefacts	x		
Local lore, shared stories, inside jokes, knowing laughter	x		
Jargon and shortcuts to communication as well as ease of producing new ones	x		
Certain styles recognised as displaying membership	x		
A shared discourse reflecting a certain perspective on the world		x	

The following extract was taken from an independent observer's report.

Extract from Independent Observer Report: Sid

The community of practice appeared to be functioning well - indicators were punctuality, collegiality and robust participation. The fact that members themselves were presenting the lessons contributed to the impression of a single community rather than a community being led by the outside facilitator. Despite some light-hearted early disclaimers about not being qualified in EMS, the members who led sessions did so with confidence and enjoyment. Report backs were confident and well informed. My overriding impression was of teachers who felt they were benefiting from the activities, who were comfortable to play their roles as learners, and who were comfortable with each other.

A further two other observers expressed similar sentiments, commenting on their observations of a core group whose level of engagement and familiarity allowed them to communicate in knowing ways with one another. Two other observers reported as follows:

Extract of Independent Observer Report: Hugh

I also was very alerted to the race dynamics that existed ... The Indian educators were in clusters in the front of the class. Two African participants who came in late sat right at the back, next to me. I felt that the facilitators spoke primarily to the Indian participants in the front and excluded the African participants....
While I have been critical, I was pleased that educators within a subject area could come together, share and offer support to each other.

Extract from Independent Observer: Gary

The group (Indian lady only) spoke about teamwork ... The African man was tasked to write this down while the African lady remained passive ... the African man and the Indian lady argued about who should present. The African lady was excluded from this...
No real sharing took place. All that was shared was your notes. The sharing of ideas was merely verbal and from a very personal or school circumstances. Unfortunately the Africans present were marginalized. Those I spoke to found the meeting good since they could interact with other schools... I am not sure that a community of teachers will develop. They came for the notes. I doubt if they will meet on their own.

In the above two extracts, observers commented on their perceptions of racial dynamics in the TEMS programme, and that undermined the community of practice. In attempting to understand the issue of 'African exclusion' that these observers raised, the work of Wolpe (1988) on explaining social difference has reference. Wolpe argues that in trying to understand social difference, issues of politics, class *and* race must be considered, as they produce differentiations within groups. Simply

(p)rivileging race... as a category of analysis underplays the ways in which a whole range of conditions and processes influence the sense of cohesiveness and fragmentation within groups... The racial discourse of apartheid has been carried into the new South Africa...(and)... (t)he new reform agenda has remained firmly within the discourse of race (Soudien 2004:91).

Soudien, a leading South African academic and researcher, goes on to present a challenge to South African researchers, namely, “(h)ow do we write in ways that will subvert the power that comes with the language of race?” (ibid.). In his review of research in the field of school integration, he asserts that the ‘race scape’ is still a dominant category of analysis in South Africa and notes that “(r)ace ... becomes the almost unchallenged lens through which South African difference is understood” (ibid.:110). It is therefore not unreasonable to expect that in South Africa, some researchers may still focus on race as their default mode. However, the views of the independent observers are important as they suggest the extent of participation within the community may have been uneven along racial lines. This could be viewed as a weakness in Wenger’s theory (Wenger 1998). His framework is somewhat limited in helping us understand issues of language and race as they apply to a South African teacher learning community that may comprise teachers from diverse race and language backgrounds. Wenger does, however, offer the concept of ‘peripheral participation’ (ibid.) as an analytical tool. In a South African teacher education context characterised by the historically marginalized African teachers, the phenomenon of African teachers enacting/adopting peripheral positions in a teacher learning community should not be viewed as an unusual phenomenon. Rather, facilitators of communities of practice should be sensitive to it.

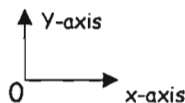
It must be noted that teachers in the TEMS community came from schools that were homogenous in terms of race, that is, all participating schools had teaching staff compositions that were either all Black African, or all Indian. Deep divisions and segregation are still features of South African education. In her analysis of the challenges of teacher education in South Africa, Adler (2002) notes that apartheid had produced a grossly unequal society and damaged the essential fabric of society. The issue of race and its barriers to engagement is a complex one. ‘Inadequate’ English language proficiency is certainly a barrier. A more compelling factor is an issue that Adler (ibid.) reminds us about and that is that apartheid education and apartheid teacher education in particular produced Black African teachers with a knowledge base that “was inadequate ... from which to proceed and grow in post-apartheid South Africa” (ibid.:8). There is

some evidence to suggest that 'deficit' identities still prevail amongst some Black African teachers and manifest themselves in 'guarded' participation.

In the next extract taken from workshop observation report dated 27 August 2003, the 'deficit' in terms of comprehension and conceptual ability, especially with Beth and Ben (two Black African teachers) became evident. The purpose of the workshop was to develop the concepts 'demand' and 'supply' and construct basic demand and supply curves. It is worthwhile noting that the new Revised National Curriculum Statement for EMS suggested that these concepts be introduced in grades five and six.

Extract from workshop observation report: 27 August 2003:

Some teachers struggled to explain the inverse relationship between price and quantity and the negatively sloping demand curve. Most teachers appeared to understand how to construct a simple demand curve. Beth and Ben however could not make any sense of the axes and the fact that point zero was at the intersection of the X and Y-axes. Beth was still uncomfortable/reluctant to venture answers.



... Later that evening I received a telephone call from Beth. She was very happy with the workshop and wanted to thank me. She mentioned that she had 'really learned' at the workshop and was looking forward to the next workshop.

Both Ben and Beth had immense difficulty making sense of the graphs representing the concepts 'demand' and 'supply'. In a later discussion, Beth indicated that graphs were new to her, but she had managed to make sense of them eventually. Ben however, had not pursued the matter any further. The rationale for guarded levels of participation appear to be a combination of the legacy of racial separation, and in particular the understandable difficulty of second language speakers who have to engage in a new academic discourse, and the associated challenge of not being able to respond 'immediately' to issues being discussed in the TEMS programme. The language issue compounds the serious challenge to teacher development in South Africa posed by the poor conceptual knowledge base of many teachers, particularly those who had been subjected to poor quality education under apartheid (Taylor and Vinjevoid 1999).

It must be noted that TEMS research participants comprised both Indian and Black African, male and female teachers. While the observers quoted above cited race as a factor, they also commented on the 'sharing of ideas' and the fact that teachers had come together, to 'share and offer support to each other'. One observer commented that the teachers felt that the meeting was 'good' in that they could 'interact' with other schools. On the issue that teachers 'came for the notes', in the earlier discussion above I described how the availability of 'notes' was one way in which community maintenance was achieved as a result of the availability of printed material.

Using Wenger's framework presented an analytical challenge, as the thrust of his theory revolves around the concept 'learning'. This is arguably the most serious critique of the model as it fails to develop an instructional pedagogy by disregarding the role of a formal learning facilitator or expert. Wenger's deliberate marginalisation of *teaching*, as a fundamental process that produces learning is indeed cause for concern. Formal instruction is trivialised while the role of the community as a whole in offering opportunities for participation, is foregrounded. The model suggests that teaching is not a precondition for learning and may indeed not even be particularly useful for learning. On the basis of the TEMS experience, this appears to be a somewhat limited judgement as it offers little or no insight into the role of an outside expert, particularly in a community like TEMS, where the development of disciplinary expertise was a crucial enterprise of the project.

Wenger's model is wanting in that it does not offer a 'community of practice' perspective of 'teaching' and the implications that such a perspective would have for conventional approaches to teaching. His focus on the concept 'learning' at the expense of any substantial discussion of teaching presents an interesting tension in the analysis of a teacher learning community where members see their primary roles as that of teaching. The notion of 'participation' as being more useful and effective than particular tools and techniques for learning is problematic. In the context of the TEMS programme, participants' presentations at workshops often modelled elements of teaching approaches associated with the disciplinary knowledge that they engaged with. Wenger, on the other

hand, adopts a 'narrow' perspective in which relations of participation are foregrounded at the expense of the conventional teacher/learner dyad. It can be argued that many forms of traditional teaching have in fact been relatively successful in relation to learning (Graven 2002). Simply discounting teaching in relation to learning in the school context, where teachers have been traditionally viewed as 'masters' who need to structure the curriculum in a manner that maximises learning, challenges the conventional notion of face-to-face teaching as an efficient and effective way to enable learning. The traditional teacher/learner dyad is in fact an area of contestation and ambiguity in South Africa. C2005, the latest curriculum policy innovation, advocates a changed role for teachers by introducing concepts of 'learner centredness', teacher as 'facilitator' and, teacher as 'co-ordinator of learning'. In some cases, teachers view this as a licence to abdicate their fundamental responsibility, namely, that of teaching. Harley and Wedekind (2004) assert that in historically disadvantaged schools in particular, the trivialising of the traditional teacher/learner dyad has displaced teachers and their pedagogy. They note that learner centredness is likely to create a dissonance between how teachers have traditionally practised their professions and the expectation of new curriculum policy.

The primary focus of Wenger's model is the community or group. It is the primary unit of analysis. The model does not provide adequate tools or constructs to analyse the learning trajectory of individuals within the community. While attention is given to the concept identity, there is no framework to analyse how the transformation of individuals occurs within a community. Furthermore, in a community of practice, there is likely to be significant differences in the learning of newcomers and more experienced members. For a community of practice to sustain its existence, the continued learning of the core group of experienced members is important. Wenger's focus on the collective at the expense of an analysis of how individuals learn in a community can be viewed as a significant fracture in the model.

Wenger's community of practice framework as a vehicle for teacher learning assumes that members of a group who come together to learn by participation in the activities of the community, do have substantial existing knowledge. It also assumes that members of

a community of practice are sufficiently alert and receptive and are in fact aware of the body of knowledge that they need to acquire. TEMS teachers, however, came together because they had little or no content knowledge of the EMS learning area and the kinds of knowledge that was needed. The question as to whether a teacher learning community has the potential to develop content knowledge without the input of an outside 'expert' is an issue on which Wenger's framework is silent. In the TEMS community, without an 'expert' input, the community's resources would have been limited to pedagogic knowledge and pedagogic content knowledge based on weak understandings of content knowledge in the EMS learning area. This has implications for the development of the community, as it would have impacted on the potential stage and the coalescing stage. In the potential stage, demonstrating value of community membership would have depended on it showing potential to develop disciplinary knowledge. In the coalescing stage, a key issue was concerned with discovering specifically what knowledge should be shared and how this is to be done. The absence of the input of an outside expert would have weakened the community's ability to sustain its development as this issue would have presented a challenge to community members who were ignorant of the kind of knowledge that was relevant to the EMS learning area. Furthermore, in a community of practice where weak understandings of a discipline's core exists, misconceptions and inaccuracies are likely to be perpetuated.

In a country like South Africa, where race, class and gender inequalities still prevail, Wenger's model offers limited insights into understanding how learning may occur differently for different members of a community of practice. In a teacher learning community in South Africa, members may hail from vastly different resource contexts even within a short radius of a kilometre and may thus face peculiar forms of inequality and disadvantage. Such differences may create barriers to learning as the form and nature of the learning that is to take place is decided by a core group of powerful and influential members. The model is lacking in its ability to understand the ways in which communities could disempower members. An analysis of the influence of social and economic issues on learning presents a challenge.

As mentioned earlier, Wenger's work is based on research in the corporate world and as such overlooks issues unique to teachers and the teaching profession. Teaching is largely an individual pursuit and writers like Delamont (2002), Grossman et al (2001) and Wesley and Buysse (2001) have commented on the privacy of the teacher's role. For TEMS participants, Mary and Beth and the co-ordinator Cindy, the aspect of community that was particularly appealing was that of the collegial interaction that TEMS provided. Simply leaving their classroom contexts to be part of TEMS appeared to be a strong motivation for these teachers, a phenomenon highlighted by Jessop (1997) in her study of rural primary school teachers.

7.6 CONCLUSION

In this chapter, I provided an analysis of the TEMS community as a whole in terms of Wenger's fourth component of learning, namely, *community*. In Section 7.2, community membership was discussed using the concepts 'core' and 'periphery'. Section 7.3 analysed the development of the community in terms of Wenger et al's five stages of community development framework. In Section 7.4, a discussion of the issues of 'community maintenance', 'communal resources' and 'brokering' was presented. Finally, Section 7.5 analysed the TEMS community in terms of its articulation with the community of practice concepts of 'mutual engagement', 'joint enterprise' and 'shared repertoire'.

In Chapter Eight, I provide a synthesis of the study.

CHAPTER EIGHT

SYNTHESIS, RECOMMENDATIONS AND CONCLUSIONS

8.1 INTRODUCTION

This chapter provides a synthesis of the analysis and arguments developed thus far and outlines the implications of this study. It also documents the limitations of the study and highlights areas of research that need further investigation. A vast literature on the continuing professional development of teachers exists. As a way of containing the discussion, I will draw primarily on the influential work of Hargreaves (1995) for an international perspective and on Christie et al (2004) for insights into continuing professional development in developing countries.

8.2 A SYNTHESIS OF THE STUDY

The critical question in this research study sought to examine the nature of teacher learning in relation to their participation in a teacher learning community. A review of the literature on teacher development revealed that, while research on teacher development in the US and UK highlighted the potential of teacher learning communities for teacher development, teacher development through participation in teacher learning communities was a relatively new phenomenon in South African teacher education, and certainly one that warranted further development. As mentioned earlier, the work of Graven (2002) represents the only significant South African study that analysed the workings of a teacher learning community using 'communities of practice' as a theoretical framework. The value of adopting a situative perspective on teacher learning was that this perspective focuses researchers' attention on how various settings for teachers' learning give rise to different kinds of knowing. This perspective attempts to recast the relationship between what people know and the settings in which they know. The contexts in which people learn, and in which they are assessed, are inextricable elements in their knowledge. A discussion of the symbolic interactionist concepts of 'context' and 'strategies' in the

literature review revealed that the types of coping strategies that teachers employed were strongly influenced by the context in which teachers operated.

With regard to Economics and Economic and Management Sciences teaching in particular, the literature review revealed the absence of any form of significant research in Economics education in South African schools. Unlike disciplines like mathematics education, science education or language education, Economic and Management Sciences education research is essentially ‘unchartered’ waters in the South African educational research scenario.

While the literature showed that participation in communities of practice has much potential for teacher learning, findings in much of the literature are based on teacher learning communities in which – unlike the case of teachers in South Africa generally - members (teachers) already possessed significant levels of subject or disciplinary content knowledge. The present research study also attempted to understand the dynamics of acquiring subject matter knowledge in a community of teacher learners who possessed very little or limited knowledge of the learning area, Economic and Management Sciences.

From a methodological perspective, this research study necessitated embracing the complex challenge of the researcher having to adopt the dual role of researcher and participant. It necessitated a close relationship between myself (as researcher), and the teachers in the learning community (where my role was that of a participant and leader) in a professional development initiative. The experience provided insights into how it is possible to negotiate dynamic and shifting roles from initially adopting the role of ‘*participant as observer*’ (observer’s activities are well known to all, but subordinate to the researcher’s role as participant) towards the role of ‘*observer participant*’ (observer’s role is known to all and takes precedence over participation) and ultimately attempting the role of ‘complete observer’.

The study also provides an in-depth analysis of the methodological challenge of gaining access and acceptance from a South African education research perspective, based on the principles outlined by prominent international educational researchers. It offers insights into the concepts of 'gatekeepers', 'reciprocity' and 'informed consent' as they could be applied in the South African context.

From a theoretical perspective, the work of Lave and Wenger (1991), Wenger (1998) and Wenger, McDermott and Snyder (2002), on learning communities as vehicles for learning has been highlighted. The present research study offered a critique of the feasibility and appropriateness of using Wenger's framework for analysing a teacher learning community. It draws attention to the most serious challenge in applying Wenger's framework, namely, his marginalisation of teaching as a fundamental process that contributes to learning. The theoretical framework does, however, present an important shift in the reconceptualising of teacher learning as relations of participation instead of the conventional teacher/learner dyad. Whether knowledge is context bound and whether situative learning can lead to the acquisition of disciplinary knowledge in a learning community characterised by non-experts is another important issue that is not adequately addressed by Wenger's framework.

In teacher development research, the limits on language constrain researchers in describing teachers' practice (Graven 2002). Improvement suggests deficit while adverse constraints stifle change that is often interpreted as inadequate change. In Africa particularly, continuing professional development models cast teachers into the role of technicians and are rooted in images of teacher deficit (Christie, Harley and Penny 2004). The focus on *teacher learning* rather than teacher change allows for descriptions of what is learned, and how it is learned, instead of whether or not teachers have changed in the 'right' directions. This focus on teacher learning has the potential to contribute to a conceptual reorientation to the discourse on teacher development. A further discussion of this issue follows in the next section.

Another important feature of Wenger's social practice theory is that it allows us to view action and structure as mutually constitutive of each other. It provides a vehicle for analysing structural conditions, such as policy, and their connections with individual actions such as teaching. It provides a particularly useful and important framework for the study of the connections between education policy and classroom practice, since teachers' work takes place in uniquely complex social and organisational contexts (schools).

Wenger's framework allows us to foreground the importance of context in teacher learning. His analysis of learning as it occurs within communities of practice (through engagement in joint work, exposure to new ideas, and efforts to make shifts in practice) adds much needed contextual information to what has previously been understood about teachers and their responses to C2005 and OBE. This perspective broadens our attention to include individual teachers' learning in terms of developing knowledge of EMS and the characteristics of the local context mediating that learning. It also supplements our understanding of varying responses to policy on the part of different teachers.

In summary, the strength of Wenger's framework is that it allows for the simultaneous study of the teacher development policy environment, the contexts of teachers' work, as well as teachers' efforts to make meaning of the multiple dimensions of their teaching practice. More importantly, compared to current 'deficit' conceptions of professional development, it offers a useful, broader alternative conception of teacher learning.

The data analysis revealed that teacher learning had occurred for all participants, but to differing degrees and along different trajectories. Data analysis also revealed the presence of Wenger's four components of his social practice theory of learning, namely: meaning, practice, identity and community in the TEMS teacher learning community, a finding that was also reported by Graven (2002) in her study of Mathematics teachers' participation in a learning community. Graven proceeded to theorise a fifth component of learning, namely, 'confidence' (learning as mastery) and was able to ground this theoretical construct in the data that was analysed (*ibid.*). This construct, however, did not emerge

strongly enough in the data generated by the present study for it to have received further exploration.

Although Wenger's framework provided a useful tool for an analysis of learning as constituting these four components, these components and the changes that had taken place within them were inextricably linked to one another. An intricate relationship between the components existed. Although each component of learning had been analysed separately, they were in fact interconnected in a complex way. A discussion of this complex relationship follows.

In terms of Wenger's first component, 'meaning' namely, 'learning as experience', the study has elucidated the changing understandings and meanings (changing ability) of the TEMS participants with regard to EMS and EMS teaching as a result of participation in the TEMS community of practice. Teacher learning *had* in fact taken place. Teachers had begun to experience the new EMS curriculum as meaningful. While some degree of uncertainty still existed, these uncertainties were not as pronounced as at the commencement of the programme. With regard to teachers' understandings of EMS, it was evident that teachers had experienced definite shifts in their content knowledge and pedagogic content knowledge base.

With regard to 'practice' namely, 'learning as doing', the study illuminated teachers' changing practices in relation to EMS teaching. In an analysis of two teachers who presented the greatest differences on the learning continuum, the narrative vignettes of both teachers provided evidence that teacher biographies, career trajectories and other contextual factors interact to affect the nature of teacher learning, in particular, their ability to make meaning of the new EMS curriculum as well as their dispositions towards their EMS classroom practice. All participating teachers had experienced changes in their practice.

'Identity' namely, 'learning as becoming' was signalled by the fact that teachers experienced their learning in terms of changed perspectives about who they were and what they were becoming. Teachers identified themselves as EMS teachers and envisaged a future for themselves as EMS teachers at their respective schools. The study also shows that their increased involvement in EMS activities at their schools had strengthened their positions at their schools and that they were perceived as 'valuable' to their schools. Their participation in the TEMS programme had resulted in their repositioning themselves within their own school communities. They had also started receiving recognition for their participation in the TEMS community from their school *and* other communities.

Finally, in terms of 'community' namely, 'learning as belonging' (participation), the study provides evidence of teachers' changing participation in the TEMS community. It suggests that the community subscribed to the notions of a 'shared repertoire', 'mutual engagement' and 'joint enterprise' in substantial ways. The TEMS community had created opportunities for different forms of participation (core and peripheral) and had developed a wealth of communal resources from which members could draw. Healthy brokering relationships began to emerge with other communities. Thoughtful community maintenance activities were also a significant feature of the TEMS community.

Each of the components of learning is connected and mutually reinforcing. Teachers' abilities to talk about and make meaning of new EMS knowledge influenced their practice and shaped their identities. These changes occurred within the context of a supportive learning community. Enhanced identities led to increased participation in the practice of the community, which in turn facilitated improved meaning. However, as noted above, outcomes for different participants were not uniform. They were, in fact, uneven.

This unevenness is attributable to several factors. Individual teachers differed according to previous experience, qualifications, biographies, career trajectories, cultures, present practice and expectations of the future. These differences influenced the extent of their

learning along the learning continuum for each of the four learning components. The TEMS programme was an informal teacher development programme that invited different levels of participation (core membership, active membership, while also accommodating 'lurkers', and 'peripherals') and therefore had a unique appeal in that participation in the TEMS learning community was voluntary. This allowed teachers to participate at will. Such voluntary participation was always likely to produce uneven outcomes as a result of uneven participation.

The co-ordinator's role was central to the efficient functioning of the community, ensuring that 'community maintenance' activities were taken care of. 'Community maintenance' is an 'intrinsic part' of any practice. However, because it may be much less visible than the more instrumental aspects of that practice, it can be easily undervalued or not recognised (Wenger 1998). The 'community maintenance' activities certainly received acknowledgement and were indeed appreciated by community members. It certainly was a feature that shaped the outcomes of the TEMS programme in positive ways.

Finally, this study tracked and analysed the development of a community of EMS teachers using Wenger et al's model of five stages of community development, as the community progressed through its various stages. It analysed different levels of membership as theorised by Wenger et al (2002) in order to explain different levels of participation by different members.

8.3 IMPLICATIONS FOR TEACHER PROFESSIONAL DEVELOPMENT

8.3.1 Social practice theory offers insights into a workable alternative for CPD in the face of acute financial constraints

Many countries are engaging in major educational reform in order to meet the needs of the economy and society and governments have begun to acknowledge the fact that teachers are crucial role players if any change in the education system is to be effective

(Hargreaves 1995). Teacher professional development should thus be afforded high priority if reform and restructuring initiatives are to be successful. In the South African context, as outlined in Chapter One, teacher development has been sporadic and poorly co-ordinated (Taylor and Vinjevold 1999). Once-off workshops without follow-up or support have been the order of the day. Such workshops and courses of limited duration are ineffective in developing subject matter knowledge or even pedagogical knowledge (Adler 2002). Sustained programmes over extended periods of time that utilise all available resources in creative ways, as envisaged in teacher learning communities, are much more likely to have a lasting impact on teachers than once-off workshops.

In the South African context, financial constraints mean that teacher education providers must be able to make a strong case for the continuing professional development of teachers if they wish to secure state funding for such initiatives (Adler 2002). Financial constraints and underdevelopment force developing countries like South Africa to prioritise their needs and CPD gets relegated to the background in favour of basic education and initial teacher education (Christie et al 2004). Financial constraints therefore necessitate a creative approach to continuing professional development, one that embraces existing financial and human resources in local communities. On-going research on continuing professional development must be undertaken in order to determine the kinds of programmes that need to be developed (Adler 2002). The present study and the Graven study (Graven 2002) suggest that formations such as teacher learning communities, that have as their basis the principles of social practice theory, offer much potential for continuing professional development in South Africa.

Adler (2002) draws our attention to the democracy-development tension that exists in the South African continuing professional development scenario. The problem is one of how to embrace the challenge of development *and* democracy at the same time. Should efforts be directed at developing a core group of master teachers in the hope that expertise would filter down to other teachers and schools, or should the focus be on the development of teachers en masse? Due to resource constraints, the latter would necessarily have to be a 'diluted' programme, the impact of which would leave much to be desired. The question

is whether social practice theory as envisaged in the functioning of teacher learning communities can provide a vehicle for the kind of development that is so needed in South Africa. My conclusion is that it holds tremendous potential. Well-co-ordinated teacher learning communities can harness the skills and expertise of teachers, teacher educators and department of education curriculum specialists towards developing and sustaining the continuing professional development (CPD) of teachers. A discussion of this issue follows later in this chapter.

8.3.2 A social response to addressing the policy-practice gap

In South Africa, the vision for CPD is quite clear. CPD is regarded as being a fundamentally important aspect of teacher education. CPD should embody the principles of democracy where stakeholder involvement is prioritised. CPD providers should have discretion over programmes but be accountable to quality control mechanisms. However, while this vision for CPD in South Africa looks good on paper, it is nowhere close to being actualised (Parker 2002). Christie et al (2004) argue that policy at present exists at a symbolic level, and they point to the weakness of the policy framework for CPD in South Africa. They argue that there is much ambiguity that surrounds the responsibility for CPD and the nature and strategies for implementation. There is also the danger that state-initiated CPD may not even occur, a situation that could lead to spontaneous initiatives by 'agents' outside of the state. One such initiative is the voluntary formations of teacher learning communities where teachers from across schools come together to collaborate on educational issues that are relevant to them. This is not surprising given the complex world of teaching where problems are unpredictable, solutions are unclear and the demands and expectations of teachers are intensifying. Collaboration amongst teachers in learning communities is beginning to emerge as a strategic response to overcome these challenges (Hargreaves 1995), a phenomenon that is beginning to take root in the South African context.

This 'social' response lends itself to a social practice theoretical approach, which is likely to offer useful insights into future CPD initiatives in South Africa. Teacher collaboration

for the purposes of professional development has been around for a long time (Day 1999). Professional development through networking via teacher learning communities suggests that teachers understand that learning only from experience will limit development. Teacher learning communities allow teachers to come together and learn from one another and to engage with curricular issues. It is the response to an important issue and that is that responsibility for continuing professional development simply cannot be left to 'others' (namely bureaucrats in the department of education).

Christie et al (2004) remind us about the power and potential of human agency and initiative in engaging with CPD but warn that this must be complemented by state involvement. They suggest that the Department of Education take ownership and responsibility for CPD programmes and lend support to voluntary formations such as teacher learning communities so as to enhance their sustainability. A powerful feature of teacher learning communities is that they lend themselves to teacher professional autonomy, where teachers of their own accord elect to participate in professional development initiatives of their own choice. It is not difficult to understand why contrived networks legislated by Department of Education officials are likely to encounter resistance from teachers. Such networks often have as the agenda, the uncritical implementation of new education policy (Day 1999). 'Contrived collegiality' entrenches power relationships between participants and undermines teachers coerced into such networks (Hargreaves 1994). In their endeavours to improve student learning, teachers often embrace contrived "system-initiated professional development partnerships and collaborations" but later encounter much "emotional turmoil and ripples of change... (that can) ... threaten self-image and self-esteem" (Day 1999:188). Day argues that "... the building of joint, authentic purpose, trust and mutual understandings, and the provision of support and continuity ..." are crucial to the development of successful collaborative initiatives (ibid.).

8.3.3 A need for a conceptual reorientation of CPD

Grounding continuing the professional development of teachers on the principles of social practice theory necessitates a 'paradigmatic' shift in the way in which we conceive of CPD. It implies a radical reconceptualisation of CPD, one that would mark a departure from the traditional 'training model'. The 'training model' for CPD advances a "skills-based, technocratic view of teaching... (i)t is generally 'delivered' to the teacher by an 'expert', with the agenda determined by the deliverer, and the participant placed in a passive role" (Kennedy 2005:237). The weakness of this model is that it creates an artificial separation from the classroom context, as much of the 'training' takes place off-site. How new knowledge is used in practice is an issue that this model does not address. The model is characterised by a high degree of central control with the programme agenda determined by dominant stakeholders (usually the state). It also adopts a narrow perspective on teaching and learning. The teacher is marginalized in this model and is relegated to the role of recipient of knowledge (ibid.). This model has limited effectiveness, especially in a country like South Africa where the legacy of the apartheid education has left the country with many teachers who have had inferior schooling and basic teacher training. This problem is compounded by the fact that many South African teachers are not predisposed to reading and do not see themselves as curriculum developers (Christie et al 2004). Instrumentalist CPD initiatives aimed at transforming teachers and the curriculum may therefore prove to be counterproductive. This is a significant issue and must be given due consideration when developing CPD programmes.

Christie et al (2004) identified two typologies of CPD that occurs in southern Africa. Firstly, one in which the teacher is viewed as a technician, with CPD directed at institutions and systems and based on the assumption of teacher deficit. This notion is supported by Sayed (2004) who notes that the weakness in many continuing professional development programmes is that they position teachers as clients that need 'fixing'. The second more progressive notion is framed along the lines of the teacher as a reflective practitioner, where CPD is aimed at the personal domain and based on the principle of

teacher growth. CPD in Africa subscribes to the former typology, which starts from the premise of teacher defect (Christie et al 2004). Because CPD is often viewed as a means of implementing reform or policy changes, this can disguise issues relating to the underlying purposes of the activity. If CPD is conceived of as serving the purpose of preparing teachers to implement reforms then it is likely to align itself with the training and deficit models (transmission view of CPD). A community of practice model based on the principles of social practice theory, while it could also serve the above function, is however more likely to create opportunities that support teachers in contributing to shaping education policy and practice (Kennedy 2005).

The challenge in developing a curriculum for a teacher development programme in which teachers *do* in fact have a deficit in terms of relevant subject content knowledge is to interrogate the assumption of the 'deficit model' for continuing professional development. Such a model assumes that teachers need to be provided with knowledge and skills that they do not already have, and that all teachers' circumstances are the same, and that there is a corresponding relationship between teacher learning and pupil progress. Adopting the 'aspirational model' of continuing professional development however, acknowledges that effective teachers can build and improve existing knowledge. This model builds on research into effective schools and teachers and teachers' identities, work, and lives (Day and Sachs 2004). A useful point of departure in a context where teachers lack content knowledge is to adopt Grundy and Robison's conception of the interconnected purposes of continuing professional development, namely, extension, growth and renewal. *Extension* would entail the introduction of new knowledge and skills into a teacher's repertoire; *growth* and *renewal* would refer to the development of greater levels of expertise that can be attained by changing knowledge and practice (Grundy and Robison 2004).

8.3.4 Social practice theory affords an opportunity for authentic teacher involvement

In describing a model of high-quality professional development for teachers, Smylie, Bay and Tozer (1999) posit that "... teachers learn best when they are active in directing their own learning and when their opportunities to learn are focussed on concrete tasks and dilemmas" that emanate from their daily encounters with pupils. Such opportunities should be based on enquiry, experimentation and reflection. Furthermore, such opportunities should be intensive, ongoing, allowing for collaboration and interaction between teachers and educational professionals. Collaborative initiatives that manifest themselves in teacher learning communities allow teachers to participate more in decisions that affect them. It also allows teachers to share pressures and burdens that result from policy changes. While collaboration may at first glance suggest an increase in the quantity of teachers' tasks, it is likely to make teachers feel less overloaded if their tasks are viewed as being more "... meaningful and invigorating and the teachers have high collective control and ownership of it" (Hargreaves 1995: 152). CPD based on the principles of social practice theory minimises uncertainties faced by teachers and is likely to create what Hargreaves (1995) refers to as situated certainties and collective professional confidence among particular communities of teachers.

Researchers like Wells (1999) assert that learning communities do not require a designated expert and that teachers can learn from each other. This idea is also supported by Rogoff (1990) who suggests that in a learning community, learners scaffold one another's learning through a powerful exchange of ideas. Groundwater-Smith and Dadds (2004) argue for systematic practitioner enquiry undertaken as a collegial activity. Similarly, Little (2004) advocates continuing professional development that is based on work that is self selected, suggesting that such self selection would create a sense of ownership and collegiality which may lead to the development of communities of mutual inquiry. These ideas, however, may prove to be problematic in a context where teacher

knowledge of subject content is seriously lacking. The crucial question is whether such systematic practitioner enquiry, scaffolding and self-selection can in fact occur in a teacher learning community where teachers do *not* have content knowledge. The present study reveals that in a context where teachers lack content knowledge, the directive role of an outside expert is indeed crucial to the professional development initiative, especially in the early stages of the community's development. The sustained development of the community will depend on the successful induction of a core group of teachers into the fundamentals of the discipline. Once a critical mass of teachers in a teacher learning community have acquired expertise and experience one can expect the learning community to flourish (Wideman and Owston 2003). It must be noted though, that teachers' intellectual backgrounds and personal contexts determine the extent to which they pursue the goals of the community (Grossman et al 2001). When planning for teacher development programmes, it is important to fully understand teacher learning. This can happen only if there is an understanding of teachers' biographical contexts, which comprise teachers' previous learning, present practice and expectations for the future. Simply focussing on the form and location of teacher development programmes are insufficient to achieve effectiveness (Kelchtermans 2004).

8.3.5 Social practice theory affords an arena for deliberating on the kinds of knowledge that counts

Wenger's (1998) social theory of learning suggests that learning within a community of practice is a result of interactions within the community and not necessarily a result of pre-planned formal course programmes. Learning in communities entails the combination of several individuals' knowledge to create new knowledge. Communities of practice develop their own understanding of what the joint enterprise should be, they develop their own agenda, develop their own accountability structures, what Wenger refers to as 'mutual accountability', that is likely to facilitate transformative practice. Under certain circumstances, teacher learning communities can serve as powerful sites of transformation (Kennedy 2005).

The potential for knowledge production in communities of practice is enormous. Communities of practice offer an inclusive approach to knowledge production that respects the contributions and roles of every member of the teacher education community. Social practice theory as it plays itself out in teacher learning communities is a fertile medium for deliberating and contesting the type of knowledge that should be valued in CPD initiatives. While most CPD initiatives have as their aim the need to enhance or introduce new knowledge and skills, this is indeed a contentious issue as one needs to take into consideration both the type of knowledge, the context in which it is acquired and the how this new knowledge is to be applied. One of the challenges that face continuing professional development programmes in South Africa is to interrogate the task of co-ordinating subject, pedagogic and conceptual knowledge (Adler et al 2002). On this issue, Day (1999) argues that knowledge created in the context of application is more useful than propositional knowledge that is produced outside the context of use. Knowledge that is created in the context of application is more likely to be the result of the efforts of a heterogeneous set of teachers collaborating on a problem specific to a context. Such knowledge is the product of negotiation and is likely to reflect the interests of all participants. Furthermore, such knowledge is more likely to minimise the problems associated with transfer, relevance and adoption. Day (ibid.) notes that such an approach acknowledges that knowledge production extends beyond the traditional understandings thereof to a process in which all participants can be contributors to new knowledge generation. Learning communities have much potential for creating opportunities for this to happen. Social practice theory as envisaged in teacher learning communities presents a dynamic forum in which the issues raised above can be deliberated.

8.3.6 Social practice theory provides a framework that implicitly and explicitly acknowledges and affirms teachers, their backgrounds and contexts

Teacher professional development programmes should be sensitive to complex local conditions (Clark 2001). The needs and existing capabilities of teachers must be acknowledged and respected. In developing continuing professional programmes in

South Africa, due cognisance must be given to the fact that apartheid education had created huge inequities in education. Teacher education initiatives need to be particularly sensitive to this (Adler 2002). In particular, such initiatives have to be guarded about adopting deficit models of teachers and teaching. Adler argues that “INSET programmes needed to relate to and work with all qualified teachers as professionals, both experienced in the work they had done and knowledgeable about their current practices in their local contexts, but at the same time acknowledge a history of neglect and dysfunction” (ibid: 7). Continuing professional development must provide opportunities for teachers to repair and develop their subject matter knowledge as well as equip them with skills for dealing with the socio-economic difficulties that face the country. Teacher learning communities provide a forum that can potentially serve this function in ways that affirm teachers and provide non-threatening opportunities for development.

While a teacher learning community may have a virtuous agenda, attempts at actualising such an agenda may be seriously limited by existing structures within which teachers work. General working conditions, resource deprivation and poor remuneration are mitigating factors that inhibit the potential of teacher collaboration and their ability to participate and engage in ongoing learning in learning communities. Hargreaves (1995:172) reminds us that “... teachers’ hopes and fears (and interests and identities) are deeply embedded within and to some extent limited by the historically ingrained structures within which they work – many of which are the source of the problems of underachievement and inequity...” In engaging teacher professional development through learning communities these complexities have to be factored into such initiatives.

Understanding the historical context of education in African countries is crucial if educational reform, including continuing professional development of teachers is to be effective (Christie et al 2004). In a country like South Africa, it will be foolish to ignore the historical peculiarities that have shaped the present status of education and continuing professional development in particular. The challenge then is to create a conducive forum where historicity is acknowledged, respected and where individuals from varying historical backgrounds can begin to engage in CPD. A forum based on the principles of

social practice theory as envisaged in teacher learning communities, offers immense potential as a context for this to happen. Hargreaves (1995) argues that collaboration amongst teachers embodies the principle of moral support. “(It) strengthens resolve, permits vulnerabilities to be shared and aired and carries people through those failures and frustrations that accompany change...” (ibid.:151). In teacher learning communities where collaborative activity occurs, such collaboration is likely to improve teacher effectiveness since it encourages teachers to take risks and to engage with different methodologies. Teachers are likely to feel a greater sense of efficacy since collaboration in learning communities allows for positive encouragement and feedback to teachers (Hargreaves 1995). Such a forum also provides a setting in which another significant challenge facing African countries (including South Africa) in their CPD initiatives, that is, is to manage the tension between tradition and modernity (Christie et al 2004).

8.3.7 A forum for addressing potentially conflictual roles

CPD based on social practice theory offers hope for addressing another complex phenomenon facing South African education, namely teacher authoritarianism. Christie et al (2004) warn that authoritarianism is a phenomenon that is firmly entrenched in the psyche of many teachers in South African schools and serves as a serious impediment to moving teachers from the role of technician to that of reflective practitioner. Learner-centred pedagogies are frequently in conflict with teachers’ lived experiences and previously established realities and expectations of the teaching task. CPD initiatives that have as their objective the development of reflective practitioners place participating teachers in potentially conflictual roles. Teachers’ traditional values and historical experience are compelling factors that determine the extent to which teachers may assume or attempt roles as reflective practitioners (Christie et al 2004). Teacher learning communities however, can provide a safe environment in which such tensions can be played out, examined and discussed, as was revealed in the learning community in the present study.

8.3.7 An arena for engaging and contesting policy reform initiatives

The goal of creating communities of practice in teacher development would obviously not be easy to attain. It is important to acknowledge that on-going professional development is not a shared value amongst teachers, many of who operate in a day-to-day survival mode. Day (1999) reminds us that the lives of teachers are immensely complex and teachers often work under stressful conditions and difficult contexts. Teachers often do not have the time or the will to pursue development needs. Under conditions of institutionally imposed complex curriculum change that undermines the professional self-confidence of teachers, it is likely that teachers will resort to minimising risk and adopt survival strategies. The challenge is to create a supportive environment for teachers that may even extend beyond the school. Darling-Hammond and McLaughlin (1995) support this notion and assert that a powerful form of teacher learning comes from membership of such wider teacher learning communities. In a context characterised by multiple reform initiatives, strong collaboration that may emerge in teacher learning communities empowers teachers with political assertiveness that allows them to appropriately decide on adopting, resisting or delaying such reforms (Hargreaves 1995).

8.3.8 A framework for problematising the role of teacher developers in CPD

If teacher educators believe that learning is social in nature, and that socially based learning is a requisite for transformation and ongoing teacher professional development, the challenge then is to create contexts in which teachers and other stakeholders interact in ways that help them to overcome barriers to ongoing professional development. Grundy and Robison (2004) suggest several themes for successful professional development, including its relevance to teachers' needs; control by participants; access to expertise of facilitation by others; collegiality; active learning and the need for long term programmes. It must be recognised though that the lack of high quality support for teacher learning and limited long-term continuing professional development programmes

are critical barriers to effective teacher learning (Long 2004). The question then is to determine the kind of continuing professional development that is most likely to be successful in different contexts. A challenge facing teacher development is to consider a community of practice framework as an underpinning model for professional development programmes.

Although partnerships between university academics and teachers have been in existence for some time, there is still the perception that academics and their pursuit of theory is distinct from the world of teachers whose main enterprise is in fact practice. There is also the criticism that the work of researchers has had little or no benefit for teachers. Of particular significance is that teacher professional development has failed to acknowledge and develop the knowledge creation capacities of teachers and teacher learning communities (Day 1999). Teacher educators and teachers ought to assume joint responsibility for knowledge creation, development and dissemination. There is therefore a need to evaluate existing school-university partnerships. Welch (2002: 32) argues that “Formal teacher education institutions need to broaden the scope of their activity to embrace less formal teacher development”. In planning for teacher development there is a need for teacher education providers to work with schools to envision and implement structures that support ongoing professional development for teachers. If a community of practice framework is to be adopted, then this approach requires a concerted effort from the entire field of teacher development, that is, a fundamental shift in how we conceptualise teacher education and research into teacher development. Teacher educators who embrace the principles of social practice theory as envisaged in the workings of learning communities need to become ‘full’ members of the learning community. This implies a departure from their traditional roles. Day’s suggestion for the reconceptualisation of the roles of teacher educators is useful:

The role of the interventionist (teacher educator) should not be confined to that of a facilitator and course organizer ... it is too limiting... To be effective in the long term the interventionist needs to be seen to be a part of rather than apart from ... educational communities (...),... must engage in different kinds of critical dialogue over time in order to ... promote and sustain a series of reflective conversations about individual and institutional needs within schools ... contribute to

the provision of appropriate professional development events and processes ... follow up the effects of these on teachers' thinking and practice...(Day 1999: 171).

In addition to the crucial issue of effectiveness, communities of practice also offer opportunities for increased democratisation of the research process. This could include gathering of data, interpretation and sharing findings. There needs to be a shift on the part of the professional development sector from working *on* to working *with* teachers and the world of practice.

Day (1999: 186) draws attention to the distinction between co-operation and collaboration in school-university partnerships and reminds us that collaboration “involves joint decision-making, requires time, careful negotiation, trust and effective communication... where both parties regard themselves as learners”. Co-operation on the other hand entails definitive roles and power relationships where university experts conduct professional development and where little mutual learning is likely to occur. The challenge then is whether the field of teacher education is ready to move towards acknowledging and accepting the conceptual analyses and interpretive knowledge of teachers as part of a redefined knowledge base rather than the traditional approach to discovering new knowledge in the field of teacher education. There is a need to challenge the linear ‘trickle down’ model of teacher development as it currently exists, an idea also supported by Wesley and Buysse who suggest that teachers have to be acknowledged as knowledge producers (Wesley and Buysse 2001). Day (1999) notes that for learning to be successful, there has to be collaboration over an extended period of time between teachers and outside individuals who may be able to complement the practical knowledge held by teachers.

From the above discussion, it becomes clear that teacher education providers need to explore the possibility of forming university and ‘community’ partnerships that could provide richer and more meaningful experiences for in-service teachers through relevant teacher education programmes. Communities of practice as a theoretical approach to the problem of reform implementation suggest that learning is occurring in practice. This

means that teacher development initiatives that employ a community of practice approach have to necessarily view teachers' practice as an essential component of teacher learning. The ability to see communities of practice and how they serve to mediate teacher learning and teachers' response to policy such as C2005 is a first step toward harnessing that energy in the direction that supports positive change in classroom practice. Teacher learning communities must be seen as sites for mediating teachers' responses to institutional reform (Galluci 2003). They are important for sustaining momentum for change. Phillips (2003) reminds us that teacher learning communities can provide opportunities to create powerful learning for teachers, the result of which is likely to be seen in improved student achievement, even in contexts where students are diverse in terms of socio-economic circumstances, academic ability and ethnic background.

8.3.9 Challenges in adopting a communities of practice framework for CPD

In developing teacher development programmes, it is useful to take cognisance of the problematic issue of 'transfer' as the immediate manifestation of the products of teacher learning. Although Avery and Carlsen (2001) alert us to the potential that the development of strong subject content knowledge has for classroom practice, immediate transfer is not likely to occur. While it may be assumed that teachers who develop strong content knowledge are more likely to develop strong pedagogic content knowledge and become effective teachers as compared to teachers with weak content knowledge, it must be noted that teacher learning through professional development may not result in changed practice and improved student performance. Day and Sachs point to an increasing understanding by researchers and teacher developers in recent times, that continuing professional development "will not, should not, and cannot always produce direct 'pay-off' in classroom learning and student achievements. There are too many other variables which prevent immediate transfer of learning" (Day and Sachs 2004:29). Continuing professional development can only have an indirect impact on student learning (Bolam and McMahon 2004). Adler, Slonimsky and Reed (2002: 136) note that a common assumption is that "... knowledge of subject matter for teaching is of primary importance, for without this, teachers would not be able to engage their learners in high-

level conceptual thinking". They warn though, that "... inferring teachers' knowledge from classroom observations and learner performance is no straightforward affair" (ibid: 138). They note that teachers with a poor knowledge base struggle to embrace new approaches to knowledge and that this phenomenon was particularly prevalent amongst teachers who worked in impoverished contexts.

A learning community approach to teacher development has much potential and is increasing in popularity as indicated by Avalos (2004) who notes that there is growing evidence of school initiated continuing professional development in which groups of teachers collaborate to form and develop their own learning agendas. She cautions though that a major factor impeding such initiatives is heavy teacher workloads that impact on teachers' time for personal improvement.

While communities of practice hold immense promise as an approach to teacher professional development, the model also carries many problems and dangers. Engaging in collaborative activities of a community of practice could become a superficial and pointless exercise if the enterprise lacks purpose and direction and is disconnected from the teaching and learning process. Simply becoming a member of a community of teacher learners for the sake of joining is a futile exercise. Another negative outcome is that communities of practice can create a situation in which collaborating teachers could become conformists. It could suppress individuality and could lead to groupthink (Hargreaves 1995).

Contrived collegiality (Hargreaves 1994) can lead to situations that could suppress teachers' desires to collaborate for professional development if this forced collaboration degenerates into administratively controlled planning by official sources. If teacher learning communities (clusters for example set up by DOE subject advisors) are used to secure teachers' compliance with and commitment to external policy reform initiatives which may be suspect, then collaboration within such communities will essentially serve a co-optative function.

Acknowledgement of diversity and accessibility and participation could in fact be facades that disguise the source from which the rules and conditions governing such collaborative gestures originate. If the functions of, for example, school clusters that operate as teacher learning communities are overly determined at the centre it is likely that the process of collaboration can be constrained and disconnected by a focus on what the products of such learning communities should be (Hargreaves 1995). While the function of learning communities is to articulate, listen and provide a forum for different voices to be heard and to determine guiding ethical principles as a basis for this to occur, contrived learning communities may in fact coerce teachers into compliance with imposed policy reform that may be bankrupt, elitist or 'inappropriate'.

In the diverse South African context, while teacher learning communities may comprise teachers who hail from vastly different teaching contexts, dominant teachers in learning communities may well be from middle class schools and as such may dictate the agenda by focussing on curriculum issues pertinent to middle class schools and children at the expense of the challenges facing teachers working in socio-economically deprived schools. Soudien (2004) in his analysis of the 'class scape' in South African education reminds us that while dominant classes have had to make space for new constituencies, they had done so on their own terms. If middle class teachers formed middleclass teacher learning communities and engaged in issues that were peculiar to their contexts, and if working class teachers did the same, this kind of situation is likely to perpetuate imbalances and inequities that exist in our society. Some teachers working in socio-economically and academically advantaged contexts may exercise self interest by electing to form learning communities with likeminded individuals who may for example include on their agenda the need to 'maintain standards' and achieve high and quality pass rates as a way of entrenching their own status within their schools. This particular type of community formation is exclusionary as it may discriminate against certain groups and may be in contravention of the principles of a democratic society.

Collaboration within teacher learning communities can lead to what Hargreaves (1995) refers to as 'incestuous professionalism' if such learning communities exclude significant other role players in education such as pupils and parents. If learning communities are considering new innovations in assessment for example as a focus of CPD, then it is important to involve both parents and pupils in its development instead of creating anxiety and suspicion by simply foisting completed plans on pupils and parents. Similarly, if teacher learning communities that comprise teachers from different schools formulate plans that are not congruent with the ideas of individual schools from which teachers originate, then affected teachers in the learning community are unlikely to receive sympathy and support from their own schools.

The context of education and teacher education in particular has become quite confusing and chaotic. Plurality and diversity are likely to result in disjointed and dissonant perspectives and aspirations. Miscommunication and misunderstanding, lack of consensus or common ground about the purpose of teacher professional development or the intentions of policy reform could result in voluntary formations like teacher learning communities exercising almost complete discretion over their individual enterprises resulting in 'inappropriate' or 'unacceptable' divergences and disparities. In other words, individual learning communities may end up basically 'doing their own thing' that may not articulate with that of other learning communities or generally accepted policy reform.

Sustaining communities of practice over time is perhaps the most serious challenge. In teacher development, the task would be to motivate and obtain commitments from a wide array of participants. Balancing teachers' short-term needs with the community's long-term goals is an issue that teacher education planners must consider, an issue which Grossman et al (2001) cite as an important tension that must be negotiated by teacher learning communities. Thought must be given to identifying methods for generating and sharing knowledge with a wider audience and allocating time and resources to all of these efforts. The organised sharing of ideas that emerge from communities of practice and developing strategies for documenting and disseminating new ideas and 'products' (new

curriculum materials etc.) are key issues that will determine the long-term survival of the community. The sustainability of teacher learning communities depends on significant levels of trust and the development of new types of relationships between teachers and teacher developers (Day and Sachs 2004).

Communities of practice have sufficient promise to warrant development on the part of education authorities. Such innovations however need to be monitored by research activity. The lack of research in the area of communities of practice as a vehicle for teacher professional development however, means that there are a number of important questions that need answering: What is the best way to orient new members to a community? Is there an optimal size for a community of practice to promote professional growth? How are administrative and coordination functions negotiated? How effective are various community configurations? Muijs, Day, Harris and Lindsay (2004) note that teacher development evaluation models need to be mindful of the complex relationship between teacher learning, pupil learning, school improvement and other pertinent factors that influence teacher development. Further research is needed to understand the conditions that enhance and sustain collaborative structures among teachers. Teacher developers need information on how to recognise communities of practice among teachers. The challenge is to move loose networks of teachers from their present state towards becoming more effective communities of practice. There needs to be a concerted effort to create communities of practice for teacher professional development (Wesley and Buysse 2001).

8.4 CONCLUSION

This research study set out to investigate Economic and Management Sciences (EMS) teachers' learning, through participation in a teacher learning programme designed to enhance participation in a community of practice. It explored the usefulness of social practice theory (in particular the work of Lave and Wenger, 1991 and Wenger, 1998) in explaining the nature of teacher learning in relation to their participation in a community of practice. The study has revealed the potential that a community of practice framework

has for teacher learning in a South African education context characterised by the marked absence of formal or 'official' teacher development programmes in areas of need. It has also drawn attention to the effect of contextual constraints and teacher trajectories on teacher learning. Of significance is the potential of a community of practice approach for teacher leadership development which itself has the potential for 'fertilising' the cultivation of other teacher development configurations.

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APPENDICES

APPENDIX 1



Murthi Maistry
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To: _____

Participation in research study on EMS teaching

I am a lecturer at the University of Natal, currently involved in the training of pre-service and in-service teachers of commercial subjects. I am enrolled at the University of Natal for a PhD in Education, with EMS teaching as my research area. You have been identified as someone who could make a valuable contribution as a participant in this study. The findings of this research will certainly be of value to you, your school, curriculum developers as well as other teachers of EMS in KZN.

I humbly request your participation in this research project and assure you that the data will be used for research purposes only and neither you, your school nor the principal will be named. The research will take the form of interviews (3 x 25 minutes) and lesson observations (2) and your normal participation in the scheduled workshops. These will be arranged at a time and place that is convenient to you.

You have my assurance that the research will not infringe on your normal school programme. Permission will also be sought from your principal, should you be willing to participate in this study.

I thank you for your time and look forward to a mutually rewarding experience with you.

Yours faithfully

Murthi Maistry

Date

APPENDIX 2

INTERVIEW SCHEDULES (INITIAL AND FINAL INTERVIEWS)

INFORMATION FOR RESEARCH PARTICIPANTS

Background

I am a lecturer at the University of Natal currently involved in pre-service and in-service training of commerce teachers. I am conducting a research study for degree purposes. The study focuses on teachers as they participate in a teacher learning community (EMS workshops, meetings, discussions etc.). Details of the project are contained in the letter addressed to you.

Ethics of the Interview

After writing up the data I would like to discuss it with you to check that it accurately reflects your viewpoint. If you are willing, I would like to tape the interview and erase the tape once it has been transcribed. The interview data will be treated with strict confidentiality. The data will be used for research purposes only and neither the school nor the principal and teachers will be named.

Format of the interview

The interview will take about 25 minutes. Before the interview, I will arrange a time and place for the interview that is convenient to you. During the interview, I will ask questions and make some notes on your responses. With your permission I would like to tape the interview to help me remember what was said.

I thank you for your willingness to assist me and I am grateful for your time and effort.

Murthi Maistry
Tel 7022844 (h)
2603457 (w)
email: maistrys@nu.ac.za

Initial teacher interview (February 2003)

Profile of your school

1. Which ex-department did your school belong to?
2. Which grades operate at your school/
3. What is the roll of you school (staff/pupils)?
4. What would you say is the home language of most of the pupils at your school?
5. What is the language of instruction?
6. How would rate the condition of your school?
7. What percentage of pupils generally has all the required learning materials in all subjects at your school?
8. Does your school have the following items: telephone, fax, sportsfield, pool, library, ohp?

In this section, the questions are about ‘factual’ biographical information as well as your early history as a person and as a teacher

1. Describe your family background as you were growing up
2. In what year were you born? (optional question)
3. Can you describe your schooling experience as a pupil?
4. How would you describe the good/bad teachers that taught you?
5. Do you think that your own experience of schooling has influenced that way you teach?
6. What initially attracted you to the job of teaching?
7. Where did you receive your training/what formal qualifications do you hold?
8. How many years have you been teaching for?
9. How would you describe your knowledge of the subject matter in EMS?

The questions in this section concern your experiences as an EMS teacher

1. What are your views on the new curriculum? (What do you know about it? How do you feel about it?)

2. What information have you been given concerning Curriculum 2005 so far? How do you think the new curriculum will affect your teaching? What will be the same? What will be different?
3. Are you familiar with the learning outcomes applicable to EMS? (Read one) Do you understand the assessment standards for the different grades?
4. Who, if anyone, do you talk to about your EMS teaching? (What are the ideas that you talk about? When, informally, formal meetings, often? What do you discuss at meetings? Do you ever share worksheets, tests etc?)
5. How do you think EMS should be taught so that pupils learn effectively?
6. How do think your pupils learn EMS effectively?
7. Can you describe what EMS is all about?
8. How many EMS workshops have you attended in the past?
9. Would you say that they were beneficial to you?
10. Do you plan to study further?

Final teacher interview

1. What percentage of your time do you allocate to preparing for EMS? What percentage is EMS of your total teaching load?
2. Are you familiar with the outcomes applicable to EMS? (Read one). What does it mean to you?
3. Did you find the TEMS programme beneficial/useful? How/explain. Which aspects of the programme did you find especially useful?
4. If you were to compare your current knowledge of EMS to your knowledge at the beginning of the year, is there a difference? Explain...
5. What type of learning do you think this project has initiated for you? What aspects of the programme do you think have particularly helped your learning? Any suggestions of how the programme can be structured to assist your learning?
6. How has the stimulus of the programme impacted on your classroom practice? What, if anything, have you been doing differently in your class? Have you used

the material/skills obtained through the workshops in your classes? What changes, if any, have you experienced in your classroom practice over the past year?

7. What type of opportunities do you feel TEMS workshops or school visits provide for talking about your classroom practice or EMS education in general? In what way do you feel these opportunities assist your learning?
8. Have you made any new contacts with teachers from other schools? How do you see the role of other TEMS teachers in assisting your learning?
9. How do you see the role of the workshop presenters in assisting your learning?
10. Do you share your TEMS experiences with other teachers in your school or with others? Explain.
11. Have the other teachers in your school contributed to your learning?
12. Do you see any overlaps between your participation in conversations in TEMS and other forums? (For example, your department meetings, departmental workshops etc). Try to explain the connections, if any?
13. In what way, if any, has your relationship to other EMS teachers, other teachers, principals etc. changed over the past two years? Explain.
14. Describe your involvement in EMS education activities or general school organizational activities over the past year. Has TEMS had any effect on these activities? Explain.
15. Who do you talk to about EMS education? Explain the nature of these talks – how often, etc.
16. How is the TEMS programme different to any other INSET workshops that you have attended?

APPENDIX 3

EXAMPLE OF JOURNAL ENTRIES

02/02/2003

Phoned two teachers who had previously indicated their willingness to take part in the project. One was unable to commit because she was moving house in a few months and did not feel that she could meet the requirements of the project. She did refer me to another teacher on her staff. He also could not commit to the project because of sports commitments after school and on weekends, citing the fact that he was the only male teacher on the staff and was fully occupied. The second teacher did not want to be part of the project. I felt somewhat dejected as the sample size was slowly diminishing.

I conducted my first interview with Mary today. Mary- a polite, keen and eager person. I expressed my appreciation for her commitment to the project. She expressed anxiety about being observed in her classroom. I tried to reassure that it would not be an evaluation - that I was not there to pass judgment on her teaching ability, but to simply observe and understand how she approached the teaching of EMS. I was glad to get the first interview under my belt. Will transcribe this myself!

3/03/2003

Interviewed Ben today. Before the interview he informed me of the sudden death of one of the teachers. All schoolwork had stopped, as teachers were busy preparing the choir to sing at the funeral. Ben agreed to continue with the interview as planned. I learnt that Ben was in charge of setting up the school library. The school had been in existence for more than ten years and did not have a library to date. Ben requested assistance in the form of books and shelving. Ben was a temporary teacher at Pecan primary. He had taught previously, had left the profession for a while and had recently returned and was trying to secure a permanent position at the school.

5/03/2003

I set up a meeting with Debbie and Kim for today. Debbie mentioned that she could not spend too much time with me, as she had to go home to prepare for her daughter's birthday.

I promised not to be long and mentioned that it was only an information session. Both teachers wanted more details about the project and the roles that they were expected to play. I explained their involvement but got the distinct impression that the teachers were still uneasy about the arrangement. I tried to reassure them that there was much that they could benefit from working closely with me in developing a curriculum for EMS.

Both teachers expressed their anxiety and dissatisfaction with the way in which they had been 'dumped in the deep-end' and expected to find their own way in EMS. Both teachers had started teaching 'needs and wants' but were not sure whether they were overlapping or pitching at the right level.

APPENDIX 4

Guidelines for Classroom Observations

- a) **Classroom resource profile** (seating, desks, chairs, table for teacher, adequate lighting, adequate for movement between desks, charts displayed on walls, painted, ventilation, chalkboard/ohp etc.)
- b) **Teaching and learning**
- Teacher content knowledge –preparedness
 - Pedagogic content knowledge
 - Pedagogic skill/teaching strategies used
 - Ability to clear up misconceptions/ambiguities
 - Goal directed- outcomes (EMS) clear
 - Relevance of topic to pupils/school/community
 - Pacing – rate at which knowledge is introduced
 - Teaches concepts in context/abstract
 - Logically connected concepts, techniques and arguments – developed systematically – can apply new concepts to other contexts
 - Draws on community/pupils’ experiences/ culture
 - Integration with the other learning areas
- c) **Intellectual quality**
- Higher order thinking
 - Depth of knowledge and understanding
 - Substantive conversations and discussions
 - Knowledge as problematic
 - Frequency of feedback – constructive?
 - New concepts/building on concepts
- d) **Resources**
- Charts, worksheets – designs original worksheets, charts
 - Appropriate to the age, language, competence, gender and culture of the learners.
 - Other teaching and learning resources
- e) **Classroom Environment**
- Class cohesion/ friction
 - Engagement/ rapport
 - Classroom management and control
 - Values pupils’ experiences

APPENDIX 5

EXAMPLE OF INDEPENDENT OBSERVER'S REPORT

Notes on the EMS Teacher Workshop, 15 October 2003

My strong impression was of a programme that is working very well at both the level of its instrumental aim and as a community of practice.

(a) In terms of the instrumental aim of equipping teachers to manage their responsibilities in the teaching of EMS, it was clear that participants were acquiring both subject knowledge *and* pedagogic content knowledge. With regard to the former, participant activity and response showed that they had become familiar with concepts such as 'budgeting'. As a first-time observer, I had the impression of subject knowledge being unfolded in a logical and ordered sequence.

With regard to pedagogic content knowledge, subject knowledge and ways of teaching it were integrated as participants were learning the concepts in the same way that their students would learn them. Apart from the benefit brought about by the 'modelling', their teaching will surely benefit from their having personally experienced as learners what they would be teaching.

(b) The community of practice appeared to be functioning well – indicators were punctuality, collegiality and robust participation. The fact that members themselves were presenting the lessons contributed to the impression of a single community rather than a community being led by the outside facilitator. Despite some light-hearted early disclaimers about not being qualified in EMS, the members who led sessions did so with confidence and enjoyment. Report backs were confident and well informed. My overriding impression was of teachers who felt they were benefiting from the activities, who were comfortable to play their roles as learners, and who were comfortable with each other.

Additional points: I was struck by the way the mode of presentation modelled good Curriculum 2005 practice: there was an integration of subject and every day knowledge, and activity-based learning. This is clearly a spin-off benefit for at least some teachers, one of whom told me that she was not teaching EMS, and so did not need the subject knowledge, but was in the programme because she was learning a lot about teaching within the new curriculum framework – an interesting unintended consequence! As one might expect, some of the significant insights emerged during the course of tea-time discussion. One teacher spoke about the excitement of being involved in "something new", and had found it a relief to engage educational issues in a different setting. Behind this was a strong indication of the wish to escape the drudgery and familiarity of the rituals of school life. Again, this seemed to be an interesting unintended consequence of the programme – it got teachers out of their schools! The advantages of school-based curriculum and teacher development are well known. Perhaps there are also some advantages in non-school based activity (see also the Jessop study in which rural teachers preferred INSET courses in town, because they wanted to go to town occasionally).

16/10/2003

APPENDIX 6

LETTER TO PRINCIPALS



Murthi Maistry
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The Principal

Sir,

Request to conduct workshops and research in EMS teaching at your school

I am a lecturer at the University of Natal, currently involved in the training of pre-service and in-service teachers of commercial subjects. I am enrolled at the University of Natal for a PhD in Education, with EMS teaching as my research area. Your school has been identified as a valuable source of information for this study. The findings of this research will certainly be of value to your school, curriculum developers as well as other teachers of EMS in KZN.

I humbly request your permission to conduct workshops and research at your school and assure you that the data will be used for research purposes only and neither the school nor the principal and teachers will be named. The research will take the form of interviews and lesson observations.

You have my assurance that the research will not infringe on your normal school programme.

I thank you for your time and hope that my request meets with your approval.

Yours faithfully

Murthi Maistry

Date