

THE ROLE OF GENERIC COMMUNICATION IN PREPARING STUDENTS FOR
ENGINEERING WORKPLACE PRACTICES:

THE CONTRIBUTION OF THE COMMUNICATION COURSE TOWARDS THE
STUDENT'S PREPARATION IN GENRE AND CONTEXTUALIZED LANGUAGE IN THE
WORKPLACE

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DECLARATION

Submitted in fulfilment of the requirements for the degree of
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South Africa.

I declare that this dissertation is my own unaided work. All citations, references and borrowed ideas have been duly acknowledged. I confirm that an external editor was not used. It is being submitted for the degree of Doctor of Philosophy in the Faculty of Humanities, Development and Social Science, University of KwaZulu-Natal, South Africa. None of the present work has been submitted previously for any degree or examination in any other University.

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ABSTRACT

This thesis argues that generic communication practice plays an important role in preparing engineering students for the workplace. Engineering courses, being contextually-bound, cannot prepare students in the same way as generic courses, which can be more flexible in being able to bring workplace practices, documents and artefacts into the academic domain. Therefore the thesis promotes the view that the communication course can provide a basic structure in terms of genre training and technical language from which the students may access further knowledge from the workplace. In an engineering faculty, the communication course facilitates the student's interactions in classroom discourse. The course also plays a vital role in the student's transition from academic discourse to the professional discourse of the workplace. This research views this transition from a social perspective, placing the student within the context of the engineering faculty's discourse community, and, subsequently, sees the student-trainee in the workplace as part of a community of practice. The study concentrates on the contradictions between these two contexts in order to investigate how the communication course impacts on the progress of the student's discourse practices between classroom and workplace. The observable features of discourse which the investigation focuses on are genre rules, the use of technical language, and the student-trainee's interaction with colleagues, supervisors, and artifacts of the workplace.

The study uses discourse theory with an academic literacy underpinning to establish a framework for the student's interactions with academic language. These interactions are explored by means of 100 questionnaires administered to first-intake engineering students at Durban University of Technology. The findings reveal that, while students say they do not always understand what is expected of them in terms of using genres to produce documents assigned by the communication course, they appear to be capable of using genre rules when applied to group tasks. Furthermore, students do not seem to regard technical language in its wider context, as a feature of classroom discourse practices. Instead they see it narrowly, as a necessary but isolated skill to be learnt for workplace discourse practices. The research considers the impact of these perceptions and practices on the findings and analysis of workplace practices.

The investigation into workplace discourse practices is guided by activity theory which sees a document's genre rules in a mediating function, and community of practice theory, which places the student-trainee's interactions within the construct, situated learning. The study used the participant-observer technique to explore workplace discourse in eight engineering companies in Durban and surrounding areas. The observations were complemented by follow-up questions in interviews with thirty six student-trainees in these companies. The findings have shown that, even though students said they had difficulties with technical language in the classroom, they were able to apply it adequately within the context of the workplace. Furthermore, genre rules needed to be adapted to suit workplace practices, therefore the rules of document design in classroom practices should focus on flexibility as well as structure. The findings also suggest that

the communication course should see the classroom and the workplace as two activity systems which complement each other, and the communication course should be placed in close proximity to the student's entrance to the workplace.

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ABBREVIATIONS

CAD	Computer-aided drawing
CoP	Community of Practice
DUT	Durban University of Technology
LC	Little Company
LPP	Legitimate Peripheral Participation
P1, P2	Programme 1, 2
S1-S6	Semester 1-6
R&D	Research and Development
WIL	Work-integrated learning
ZPD	Zone of proximal development

CHAPTER ONE

INTRODUCTION

This study began with an interest in the progress of university students entering the workplace, the main objective being to investigate how a university empowers students to make the transition from classroom to workplace, if at all. The students of universities of technology, for instance, gain workplace experience when they are placed in industrial enterprises as part of their curriculum. This experiential learning in the workplace is assessed as a module, and the duration may be for one or two semesters. This module is normally placed after the first four modules of the qualification so that students have the benefit of academic knowledge which can be applied to workplace contexts. The current study is located in this experiential learning phase because of an interest in the transfer of skills between the academic context and the workplace environment. In order to lay a foundation for the workplace, the communication course teaches a module in generic language skills and also prepares students to produce documents that mediate various workplace projects. In its present form, the communication course is offered during the first academic year, mainly because of its orientation in academic literacy. The academic literacy component prepares students for the language used in their first year courses. This research investigates how the student makes the transition from the classroom to the workplace, and what contribution, if any, the communication course makes in this transition. The location of the study is the Durban University of Technology (DUT) in Kwa-Zulu-Natal, South Africa, and the investigation focuses on engineering students in the communication course. This choice was influenced by the researcher's prior association with the engineering students as a consultant in communication interventions. Four disciplines in the faculty were selected through consultations with the co-ordinators of their experiential learning programmes, and because the workplaces which provided in-service placements for these students were situated in accessible geographical areas. These disciplines were: mechanical, electrical, industrial, and electronic engineering.

This study positions itself within a field of research which includes different approaches to communication courses which prepare students for workplace discourse. For instance, Kain and Wardle (2005) have found that a multi-major communication course promotes training students to use genres in different contexts in order to engage with the genres of the workplace. On the other hand, Pappas et al. (2004) advocate team-teaching in discipline-specific communication courses with communication lecturers providing support in technical language for the duration of the student's undergraduate study. Paretti (2008) also calls attention to discipline-specific communication courses, but proposes a scenario in which students are engaged in real projects with commercial institutions instead of doing course assignments. In the South African context, researchers such as Winberg (2007) have found that communication courses do not necessarily include the variety of communication practices which currently exist in the workplace. South

African tertiary institutions have established various approaches to address the transfer of relevant communication skills to the workplace. For instance, Jacobs (2010) from Cape Peninsula University of Technology proposes a collaboration between communication lecturers and experts within disciplines which sees the tacit knowledge of the discipline being made explicit. That study involves the collaborating lecturers as project participants. Sulcas and English's (2010) study at the University of Cape Town presents a communication course which is part of the faculty. Their research involves employed professionals who are graduates of the faculty. The current research, based at Durban University of Technology, investigates a generic communication course, similar to that of the University of Johannesburg, which is adapted to suit the requirements of different disciplines and faculties. This study focuses on undergraduate engineering students during the work-integrated learning period in order to determine the extent to which the communication course can prepare the student for the discourse of the workplace.

This research is based on the view that language plays a vital role, both in the way the student approaches course material, and as a vital factor in the student's transition to the workplace. In this regard, the role of the communication course in the student's development is twofold: firstly, the course facilitates the student's interaction with academic language in engineering course materials; and secondly, it is meant to prepare the student to use language effectively in the workplace. This study draws a distinction between generic communication, academic language, and technical language. Whereas generic communication and academic language are taught in the communication course, technical language is acquired by engineering students in the course of their studies, not deliberately taught in the engineering disciplines. From a theoretical point of view, the research positions the communication course within the framework of discourse in „Gee's (1996) sense. In this regard, the difference between the use of Gee's „discourse" and „Discourse" should, perhaps, be clarified. In using Gee's terminology, this thesis does not actually refer to discourse with a capital „D", which includes "ways of thinking, feeling, believing, valuing and acting" within a community (see 2.2). Rather, it adopts Gee's „discourse", which refers to general language usage as a practice in the communication course.

This study sees language from a social perspective: this means that it does not view language in isolation, but as part of the interactions by members of a discourse community. In this way, one may refer to *classroom* discourse associated with the communication course; and *workplace* discourse in the engineering workplace. The communication course is important to this study because, apart from its involvement in academic language, it stands at the point of transition between classroom discourse and workplace discourse. Therefore examples of exercises in genre training in the communication course will be briefly considered in light of how they prepare students for the workplace (see 3.5.2). This calls attention to the appropriate structure and language of genres in written and spoken mode. The investigation also probes whether documents produced in this way can be used professionally in the workplace, and whether the skills used in the communication course can enable students to interact with workplace

discourse. The study also expects to establish which adaptations (if any) would make it possible for the course to better prepare students for the workplace.

The communication course is a generic course which teaches its materials across faculties and disciplines. Like similar courses at Zululand and Johannesburg, it is not discipline-specific, and lecturers and tutors make minor adjustments to course materials used by different disciplines. For instance, the topic of the report or presentation may be linked to a specific programme while the structure of the report or presentation would remain unchanged across programmes. This arrangement sometimes makes it difficult to focus on the exact nature of the intervention that the course is supposed to make, both in classroom discourse and workplace discourse. Clearly the materials written for the Commerce Faculty, for instance, would not necessarily be appropriate for the Engineering Faculty. Perhaps the findings of this research could offer some suggestions for a more diversified and flexible approach for the current communication course. The study is guided by four research questions which are designed to address the main aspects of the student's progress from classroom discourse to workplace discourse.

Question 1: How do the generic communication practices taught in the communication course prepare students for the contextualized language operating in the workplace?

This question investigates how a generic course such as the communication course prepares students for the professional language used within the context of the workplace.

Question 2: How prepared are student-trainees to interact appropriately with supervisors in the workplace?

The second question asks how the oral interaction component in the communication course, as evident in the course material, prepares students for interaction with supervisors in the workplace.

Question 3: How are the genre rules learned in the communication course maintained and/or modified when these genres are enacted in individual workplace documents?

This research question refers to the written and spoken documents which the student-trainee prepares as part of workplace tasks. The purpose of the question is to establish the extent to which classroom genre rules are adapted for the workplace in order to suggest how these genre rules may be adjusted so that they become more flexible for workplace contexts.

Question 4: Does Wenger's (1998) construct, communities of practice, provide a framework for investigating the language used in the interactions between student-trainee, supervisor, and artifact in the engineering workplace?

The fourth question draws attention to language use in the physical environment of the workplace in order to observe the integration of the student-trainee into this discourse

community. This part of the inquiry also investigates the trainee's interaction with artifacts such as computer hardware and software, machinery, and presentation apparatus in order to discover which adaptations could be made to assignments in the classroom to better prepare students for the workplace.

In terms of the body of the thesis, Chapter Two contains the literature review. It presents arguments for placing language within a discourse framework as formulated by Gee (1996, 2005), and Cope and Kalantzis (1993). Classroom discourse is defined and explained according to the views on academic literacy put forward by Street and McCaffery (1988), Street (1993, 2001), and Lea and Street (1998, 2006). The study provides a theoretical account, linked to the classroom as well as the workplace, on genre and genre rules by using insights gained from: Miller (1984), Bakhtin (1986); Yates and Orlikowski (1992); Kain and Wardle (2005); and Paretti (2008). Communities of practice are discussed with reference to the environment of the classroom and workplace settings based on the work of Wenger (1998) and Allee (2000), and discussions on situated learning (Lave & Wenger, 1991) provide the opportunity to view the student-trainee's entrance into the workplace in terms of legitimate peripheral participation (LPP).

Chapter three (methodology) presents the three phases into which this research project is divided. The first phase consists of a questionnaire survey conducted at the DUT, with 100 engineering students from the electrical, mechanical, industrial, and electronic disciplines in order to explore their views on classroom discourse. Phase two is an inspection of a selection of the communication course materials according to Nunan's (1996) course analysis criteria. This is intended to complement the phase one data on preparations for the workplace. Phase three of the investigation is conducted in the workplace, using observations of workplace discourse practices and interviews to explore the data obtained from the observations. The objective of this phase is to approach the workplace as an activity system in order to ascertain the extent to which genres learnt in the communication course are used to mediate the information of the workplace system.

Chapter four presents the findings and analysis of the three data collection phases. The findings are analyzed according to the four research questions as criteria for the analysis. The findings from the workplace investigations will be compared with those of the classroom. The analysis of the course materials will be used as a reference point for the analysis of the phase one (classroom) and phase three (workplace) findings. Since the research sees discourse from a social perspective, the findings will be analyzed in terms of how the students are able to work together towards a common goal within the two social network settings of the classroom and the workplace. The documents produced in these contexts are seen as the observable manifestations of genres which can provide insights into the transition made between the classroom and the workplace. Therefore the analysis will focus on the way genre rules are used since these may provide indications of discourse practices within the two settings. The conclusions drawn from

this analysis are intended to inform an approach for preparing students for the discourse practices of the workplace.

Chapter five (conclusions) will provide discussions of the findings and analyses, showing how the research concern has been addressed by the four research questions. The chapter will also offer recommendations as well as a possible approach for the communication course, based on the final points made in this chapter.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This investigation is supported by a body of research which offers a view of language as a social phenomenon. The study examines the transfer of discourse practices from an academic context to the engineering workplace, focusing on how genres are enacted in these two contexts. Therefore it conducts a review of the sources which offer insights into genre theory, as well as the various situations in which several genres are employed. The investigation into genre practices is also supported by scholars concerned with discourse in its many forms such as academic literacy and professional discourse. Since the research examines the adaptation of students' abilities with discourse between the classroom and the workplace, it also reviews the sources which may inform this type of adaptation. The works of researchers who offer fresh insights into theories such as activity theory and situated learning theory are also explored. Furthermore, since this research project sees the individual's interactions occurring in a community, it will also be informed by community of practice theory. Finally, the investigation is concerned with the communication course in the engineering curriculum: it will therefore evaluate various communication courses that have been researched with the aim of establishing similarities and differences which may provide insights for the current communication course.

2.2 DISCOURSE

In order to gain an understanding of genres, it is essential to study discourse as a starting point. In this regard, the current research views discourse as socially determined linguistic interaction between members of a school or workplace community. This perspective is based on insights drawn from Gee (1992, 1996, 2000, 2005), Cazden et al. (1996) and Fairclough (1992, 2003). Gee defines discourse as:

a socially accepted association among ways of using language, other symbolic expressions, and artifacts, of thinking, feeling, believing, valuing and acting ... as a member of a socially meaningful group (1996: 131).

Similar to Gee's (1996) definition, Fairclough (2003) describes discourse as a construct which encompasses ways of thinking and interacting in a socially determined system. For Fairclough discourse represents:

the processes, relations and structures of the material world, the „mental world“ of thoughts, feelings, beliefs and so forth, and the social world (2003:124).

Participation within the discourse group involves interaction which transcends teaching and learning in the conventional sense: a member's participation determines, and is determined by, the way in which that member interacts with other group members as well as the materials („artifacts“) employed by the group.

Gee draws a distinction between the terms „discourse“ and „Discourse“. Within his framework, the term „discourse“ is reserved for pieces of language which are connected and “make sense”, such as “reports, arguments, essays” (Gee, 1996:127). On the other hand, the concept „Discourse“ has a social dimension in that it refers to an amalgamation of interaction which includes language. Gee calls this “saying (writing) – doing – being – valuing – believing combinations” (1996:127). Gee thus defines Discourse as:

A sort of identity kit which comes complete with the appropriate costume and instructions on how to act, talk, and often write, so as to take on a particular social role that others will recognize. (1996:127).

This research takes into account the connection between Gee's two terms (Discourse/discourse). For instance, „discourse“ shares certain features such as the social dimension with „Discourse“. In this regard, since the focus in most of the discussions would be on instances of language use in activities such as report writing and presentations, the suitable term to adopt is „discourse“. However, this term still maintains its link to „Discourse“ since the contexts within which the activities occur are seen from a social point of view.

Gee introduces the idea of multiple discourses to demonstrate “how people learn and become socialized within social practices” (Gee et al., 1996:8). In this regard, the students in this study may participate in more than one classroom discourse as they participate in various subjects/courses or sub-disciplines; they may also have access to more than one discourse community in the workplace based on the various discourse groups within which they perform their everyday functions.

A significant dimension to Gee's notion of discourses is his distinction between primary and secondary discourses. Primary discourses “constitute our first social identity”(1996:137), which involves our cultural, economic and linguistic base. For the students in this study, it involves the *who* and the *what* of their reality: this includes their cultural identity (White/African/Coloured/Indian), as well as their linguistic identity (English/isiZulu/other languages). In terms of secondary Discourses, on the other hand, Gee (1996) finds that these Discourses:

Are those to which people are apprenticed as part of their socializations within various local, state, and national groups and institutions outside early home and peer-group socialization (1996:137).

These institutions include school and workplace as well as other public communities such as churches and sports clubs. Secondary discourses also entail a degree of formality, as in the interaction between lecturer and student, since, according to Gee, “they involve by definition interaction with people with whom one is either not „intimate“, with whom one cannot assume lots of shared knowledge and experience” (1996:143). Gee’s notion of secondary discourses provides a framework for the investigation of classroom discourse in this study, since it will provide insights into academic language use. According to Gee’s earlier definition, to be literate means to develop “control over secondary uses of language” (1992:25). Therefore, this research follows Gee in his notion that the student’s ability to master a secondary discourse (academic language) is defined as literacy, and the abilities in mastering different discourses are seen as the ability to engage in various literacy practices.

2.2.1 AN APPROACH FOR INVESTIGATING DISCOURSE PRACTICES

Gee’s (1996) view of the covert nature of interaction in a discourse community has direct implications for this investigation into classroom discourse practices. He claims that when we have mastered a discourse, “we have little or no conscious awareness of it” (1996:140). This view is shared by Fairclough (1992), who draws our attention to the “constructive effects discourse has upon social identities, social relations and systems of knowledge and belief, neither of which is normally apparent to discourse participants” (1992:12). According to Gee, those individuals who operate on the margins of a discourse tend to gain insights into a discourse “that more mainstream members do not” (1996:140). The discourse participants in this study includes those considered as marginal participants; therefore insights into how they operate will, in Gee’s (1996) terms, contribute towards an understanding of classroom discourse in this community.

In terms of research into classroom discourse, Fairclough (1992) reminds us of the “absence of a developed social orientation to discourse” among the researchers of the 70’s, since:

They concentrate upon a traditional teacher-centred mode of classroom discourse, and their data does not reflect the diversity of current classroom practices (1992: 15).

Fairclough claims that this kind of approach fails “to consider how power relations have shaped discourse practices” (1992: 15). Like Fairclough, Johns (2002) mentions the paradigm shift between research in the 70’s, which focused on cognitive literacy theories, and current research, in which the focus is on “the writer viewed as a social being” (2002:3). A social dimension to literacy is also explored by the New London Group (Cazden, et al., 1996) which sought a more wide-ranging approach to literacy than was traditionally offered by “language-based” methodologies (1996:1). The findings of their investigation provide an outline of the relationship between “the changing social environment facing students and teachers and a new approach to literacy pedagogy” (1996:1). This approach would have to cater for a community which no

longer depended upon formal systems of discourse; rather, the new literacy pedagogy would need to take into account an “informal, oral, and interpersonal discourse” (1996:7) and “interpersonally sensitive informal written forms” (1996:7) such as email.

Furthermore, the pedagogy would need to consider the range of social interactions required in the community, where various discourses interact with one another. Against this background, Cazden et al. (1996) provide a social component of knowledge: “when it is applicable to practice, (it) is primarily situated in sociocultural settings” (1996:34). The sociocultural dimension of discourse, with the emphasis on *meaning*, is reiterated in Gee’s (2000) study on discourse and reading. According to Gee, “meaning is always situated in specific sociocultural practices and experiences” (2000:1). In terms of social interaction as a feature of discourse, research question one of this study investigates, for instance, how social interaction enables students to perform group assignments involving technical language (see 3.3.2).

2.2.2 LITERACY

The position taken on discourse and literacy in this research is that *discourse* refers to an engagement with other members of a specific community, while achieving expertise within that community is seen as *literacy*. Gee (1996) supports this point:

I believe any socially useful definition of literacy must be couched in terms of these notions of primary and secondary Discourse. Thus, I define literacy as *mastery of a secondary discourse* (1996:143).

Weiner (2002) agrees that literacy “must be linked to social engagement” (2002:2), and expands his definition of literacy as “a term that signifies a complex matrix of language, learning, culture, identity” (2002:2). Gee (1996) and Weiner (2002) also agree that there are many discourses with which the individual will engage, but significantly indicate the necessity of mastering - becoming “literate” in (Weiner, 2002:1) – many of these discourses, thereby leading to multiple literacies. In this regard, a considerable contribution is made to one’s understanding of literacies by Street and McCaffery (1988), Street (1993, 2001), and Lea and Street (1998, 2006). Street adopts an approach to discourse and literacy which sees “literacies as social practices” (Lea & Street, 1998:5). As a starting point, Street and McCaffery (1988) are concerned with the deficit model (focusing on the individual’s deficiencies) adopted by adult literacy practitioners: they argue for “appropriate (central) literacy and language training” (1988:8) which would move away from a focus on skills, towards a social perspective on literacies. In this regard, Street (2001) maintains that “literacy is always a social act even from the outset” (2001:8). Street’s social view of literacies is shared by Neugebauer (2008) in his criticism of the deficit model in which “students” burdens and obstacles to learning are predominantly viewed as deficiencies situated within an

individual child rather than as inadequacies in the child's environment" (2008:252). Like Street, Neugebauer argues for "social structures" (2008:253) as a central feature of literacy.

An awareness of the deficit model, as well as the social structures in literacy, provides a framework within which to investigate classroom discourse and professional discourse in this study. Another factor in this framework is Street's (1993, 2001) distinction between „autonomous“ and „ideological“ models of literacy. According to Street (1993): "The exponents of an „autonomous“ model of literacy conceptualize literacy in technical terms, treating it as independent of social context" (1993:5). The basic assumption in this model is that if individuals are taught skills and concepts, this „literacy“ "will have effects on other social and cognitive practices" (Street, 2001:7). The current research can benefit more from the ideological model, which offers a social dimension to literacy. This model:

posits instead that literacy is a social practice, not simply a technical and neutral skill (2001:7).

The choice of the ideological model is also based on the manner in which individuals in a community approach the skills of writing and reading: this approach proceeds within the framework of knowledge which already exists in that community. This is because, as Street maintains, literacy is "always rooted in a particular world-view" (2001:8). In terms of Street's world-view, the current research promotes a social perspective of the student's expertise in classroom discourse practices. Another concern in this project is the possibility of a gap between the lecturer's expectations and student interpretations of classroom discourse practices. Here Lea and Street (1998) put forward a social orientation to discourse practices: they argue for "student writing as being concerned with the processes of meaning-making and contestation around meaning" (1998:6). Similarly, Gee (2005) contends that discourses "are always defined in relationships of complicity and contestation" (2005:31). A social perspective is vital in the individual's ability to interact with different literacies, as claimed by Lea and Street (2006): the „dominant feature“ is:

the requirement to switch their writing styles and genres between one setting and another, to deploy a repertoire of literacy practices appropriate to each setting, and to handle the social meanings and identities that each evokes (2006:369).

In this regard, the current study is concerned with the student's adaptation to, and ability to make meaning of the discourse practices in various academic settings of the Durban University of Technology. These include the sub-disciplines of the engineering faculty as well as the communication course. The student's approach to classroom discourse is explored in a questionnaire survey, as discussed in section 3.5.1.

2.3 GENRES

The individual's ability to use a „repertoire“ of skills is integrally linked to an engagement with genre. Genres, according to Callaghan et al. (1993), are “the ways that we get particular things done through language” (1993:192). The current research adopts an approach which sees genre from a social perspective, similar to the stance taken on discourse and literacy above. Three related approaches have been identified in the literature. The first of these, highlighted by Cheng (2008), focuses on the Australian classroom. In this context, genre training involves such skills as: “description, narration, exemplification, and argumentation” (Cheng, 2008: 50). A second approach, in a North American context, emphasizes a social dimension of genre which coincides with the view held in the current study. The third approach mentioned by Cheng (2008) puts forward the notion of “genre as a tool for teaching discipline-specific writing to L2 users in professional or academic settings” (2008:50-51). The current study adopts a scheme which combines elements of the second and third approaches above. The *social dimension* in the second approach is key to this research which intends to examine how genres are enacted in academic discourse and professional discourse from a *social* perspective. For instance, in the investigations into classroom genre practices, the study explores the way individuals work together towards a single goal, and then present the results of their task in the appropriate document (see 4.2.5). Furthermore, the features „discipline-specific writing“ and the „professional or academic settings“ are incorporated into the approach of the present study because it emphasizes the skills of the academic discipline rather than generic skills, and the research is located between the contexts of the academic classroom and the professional workplace.

The social dimension is used as a starting point in establishing a definition of genre in this research. In this regard, Cope and Kalantzis (1993) provide a useful definition which focuses not only on the social aspect of genre, but also makes one aware of the „patterns of regularity“ which characterize the use of genre:

genre is a category that describes the relation of the social purpose of a text to language structure. It follows that in learning literacy, students need to analyze critically the different social purposes that inform patterns of regularity in language (1993:2).

Callaghan et al.(1993) share the view that language plays a crucial role in the way genres are enacted. They define genre as follows: “Genres are the ways that we get particular things done through language” (1993:192). Cope and Kalantzis's (1993) notion of the stability of structure – „patterns of regularity“ - in the use of genre is also shared by Callaghan et al. (1993). They refer to „particular ways or forms for performing each exchange“ (1993:192). These references to „patterns“ and „forms for performing“ can be traced back to a Bakhtinian view of genre which emphasized a stability of form and structure, especially in genres with a high degree of formality: “These genres, particularly the high and official ones, are compulsory and extremely stable”

(Bakhtin, 1986:79). Apart from his view on the stable feature of genres, Bakhtin also claims that the characteristics of genres are determined by the social interaction and relationships between individuals responsible where genres are enacted. In this sense, genres are structured in a certain way:

depending on the situation, social position, and personal interrelations of the participants in the communication (1986:79).

In a more recent investigation, Johns (2002) has also shown how the social framework within which genres are enacted can determine the written or spoken responses produced:

genre has become a term that refers to complex oral or written responses by speakers or writers to the demands of a social context (2002:3).

In this regard, a definition provided by Bhatia (1993) similarly focuses on the social dimension of genres while emphasizing that genres are recognized by members of a specific community. He views genre as:

A recognizable communicative event characterized by a set of communicative purpose(s) identified and mutually understood by members of the professional or academic community in which it regularly occurs (1993:13).

In an earlier study, Miller (1984) provides us with a definition of genres as well-organized and recognizable responses to situations which we construct socially. She demonstrates the need to investigate “the connection between genre and recurrent situation and the way in which genre can be said to represent typified rhetorical action” (1984:151). Similarly, in terms of the context within which genres are enacted, Winsor (1996:90) has found that: “Genre becomes a recurrent appropriate response to a contextualized situation”. Furthermore, Miller (1984) shifted our emphasis from practices at the time, which primarily focused on the categorization of discourse, toward a “rhetorically sound definition of genre” which “must be centered not on the substance or the form of discourse” (1984:151). Rather, in Miller’s (1984) terms, we should emphasize the social interactions which culminate in the use of the genre as a recognizable tool in the community. In the current investigation, the decision was made to follow Miller’s viewpoint because of its impact on classroom and workplace genre training. For instance, as explained in Chapter Three (3.3.3), research question three investigates the extent to which the student is able to transfer genre rules from the classroom to the workplace. This requires that the genre rules must conform to the rules of the workplace system, and conform to the “shared conventions” (Wertsch, 1985) which are recognized by other members working within a system. This viewpoint is expanded in investigations such as Adam and Artemeva (2002), Kain and Wardle (2005), and Paretti (2008). For instance, Adam and Artemeva’s (2002) viewpoint coincides with Miller’s (1984) definition, since they see genres as “typified responses to situations we socially construct or recognize as recurrent” (2002:180). From this perspective, genre includes “a

multitude of things” (2002:180) such as the circumstances surrounding the discourse, the exact way in which it was organized, and the collaboration (if any) involved in its composition. The current research is informed by these considerations, especially with regard to genre training. The choices of language use are determined by social factors around the situation in question. Once these language choices are made, they are inclined to be repeated as suitable *typified rhetorical action* when a similar, identifiable situation presents itself. In this regard, the findings of this research in terms of genres are expected to demonstrate how language is used differently in similar genres in the contexts of the classroom and the workplace (see 4.4.3).

2.3.1 WORKPLACE GENRES

The studies of Kain and Wardle (2005) and Paretti (2008) provide an expanded view of genre based on the situated character of genre in the workplace. Kain and Wardle (2005), for instance, adopt the position that Miller’s (1984) *typified rhetorical actions* “respond to recurring situations and become instantiated in groups” behaviours” (Kain & Wardle, 2005:116) . They also demonstrate that the “difficulties in teaching workplace genres in school settings arise from the situated nature of genre use” (2005:116). This has direct implications for the current research project which seeks to understand these difficulties so that the findings may offer informed insights about how genres are enacted during the transition between the classroom and the workplace. Therefore classroom genre teaching takes cognizance of the context within which language choices are made with a distinct action in mind. For instance, the communication course investigated as part of classroom genre training in this research has a specific outcome directed at *work-related communication genres* (see 4.3.1.2) which are geared towards workplace contexts. In this regard, Kain and Wardle (2005) promote a practice which focuses on:

the rhetorical moves people must make within accepted genres to communicate successfully in particular contexts (2005:116).

Similar to Kain and Wardle (2005), Paretti (2008) also offers an approach to workplace genres based on Miller’s (1984) paper, and draws our attention to generalized genre rules versus “specific context and goals of the participants” (2008:492) which govern the format of workplace genres. Paretti (2008) introduces a social dimension to genre in order to illustrate that workplace genres:

take their form not from any arbitrary or idealized set of „rules” or templates, but from the social situations to which they respond (2008:492).

Paretti’s viewpoint is supported by Bhatia (1993), who also indicates the context in which members of a community understand and apply genre rules:

These rules and conventions are most often implicitly understood and unconsciously followed by the participants in that communicative situation in which the genre in question is used (1993:24).

This study examines whether the students are able to apply a generalized set of genre rules to the context of the workplace, and investigates how they are able to adapt those rules to the specific social setting of the workplace, as illustrated, for instance, in 4.4.3 (ii).

In this regard, in order to demonstrate her point, Paretti refers us to workplace genres such as reports and proposals. In particular, she focuses on two paragraphs („Broader Impacts“ and „Intellectual Merit“) of a proposal summary submitted to the National Science Foundation, and finds that the structure of this section “arose not because that structure is „right“ according to some universal proposal format, but because those areas are the primary criteria used to evaluate proposals” (2008:492). Paretti’s point is valuable to the current research because it provides a base from which to view the teaching of workplace genre in the classroom. For example, one may focus on the various sections of a formal report in light of situations and interactions that gave rise to those sections rather than the „established“ formats for which data normally have to be tailored. On the other hand, it should be taken into account that, although researchers argue against the use of generalized rules of genre, they still largely advocate a view of the appropriate use of genre rules according to the “demands of a social context” (Johns, 2002:3).

2.3.2 ADAPTATION OF GENRES

One of the research questions in this study (Question Three) interrogates how genre rules of classroom discourse are maintained and / or modified in the language used when the genres are enacted in the workplace. These genre rules are necessarily taught out of context in the communication course because it is a generalized course. In this regard, Yates and Orlikowski (1992) introduce the concept, *genres of organizational communication* (1992:1). According to this concept, a genre is:

a typified communicative action invoked in response to a recurrent situation. The recurrent situation or socially defined need includes the history and nature of established practices, social relations, and communication media within organizations (1992:5).

These genres are characterized by what the researchers refer to as “substance and form” (1992:5). In this sense, the term *substance* applies to “social motives, themes, and topics being expressed in the communication” (1992:5), and *form* refers to “the observable physical and linguistic features of the communication” (1992:5). This description of form is reinforced by Firth and Lawrence (2003), who observe that form “refers to observable aspects of the communication, such as structural and linguistic features” (2003:3), and illustrate their

observation by mentioning that “the trip report includes lists or specifications of the trip as aspects of form” (2003:3). With the above characteristics in mind, Yates and Orlikowski (1992) put forward three ways in which genres can be adapted when they are enacted in organizational contexts: the processes of “maintenance, elaboration, and modification” (1992:12). Firstly, individuals *maintain* the genre when they do not alter the genre rules in substance and form when these genres are enacted in an organization. Secondly, *elaboration* occurs when minor adaptations are made to genre rules according to the location and the medium within which the genre is enacted. And thirdly, the genre rules are *modified* when the individual is consistent with significant departures from the existent genre rules. In this instance, Yates and Orlikowski provide the following example of modification: “when prose reports are replaced by tabular, numeric reports in organizations” (1992:12). The above outline of the adaptation of genre rules is valuable to the current research which is concerned with the transitory nature of genre use, particularly as individuals progress from initiations into genre rules in the classroom to enacting these rules in workplace contexts. The research question referred to above focuses on two of the three types of adaptation: how these rules are maintained and how they are modified. The reason is that the researcher seeks to account for any changes in the way documents are produced in the workplace, compared to how the production of such documents are taught in the communication classroom, as referred to in section 3.5.2. Therefore the term „adapt“ may also refer to changes in genre rules in the workplace. Furthermore, this study concentrates on the *form* concept proposed by Yates and Orlikowski (1992) as well as Firth and Lawrence (2003), rather than the *substance* (Yates & Orlikowski, 1992) or *purpose* (Firth & Lawrence, 2003) concepts mentioned by these researchers. The characteristic of form (which includes *linguistic features*) in genre rules provides a background against which to investigate the language used as these genre rules are applied in the workplace: language is the focal point of this research.

2.3.3 TRANSFER OF GENRE RULES

This research is concerned with the transfer of genre rules, particularly the extent to which genre training in communication courses linked to engineering departments impacts on the individual’s ability to enact genre rules in the workplace. In this regard, the study relies on the viewpoints of Artemeva et al. (1999), Williams (2002), Pappas et al. (2004), Kain and Wardle (2005), and Paretti (2008). For instance, Artemeva et al. (1999) propose an approach in which the communication course is discipline-specific and aimed primarily at students in engineering courses. According to this approach, the course:

provides a context in which students acquire rhetorical skills and strategies necessary to integrate into a discipline-specific discourse community (1999:1).

In the current research, the communication course is non-specific in the sense that it caters for a range of disciplines across faculties such as Engineering and Commerce, and therefore cannot fully accommodate the particular discourse requirements of engineering students. On the other hand, for Artemeva et al. (1999), the objective is that: “we as instructors need to direct our students to real, recurrent, discipline-specific rhetorical situations” (1999:6). In order to achieve this, the communication course lecturers instruct engineering students to choose one of their engineering courses on which to base the work of the communication course. The lecturers have the following in mind:

The goal is for students to become familiar with disciplinary genres elicited in their engineering courses and to allow them to become more aware of their learning processes as well as of communicative and rhetorical strategies appropriate within the discipline (1999:9).

Each of the assignments of the engineering course is prepared as part of the communication course. For instance, a student would develop a proposal in response to an engineering instructor’s request, as a communication task. Similarly, students may write a formal report in communication based on a field trip taken as part of the curriculum of the selected engineering course. From the viewpoint of the current research, the emphasis of such exercises would be on the way language is used when the particular genre is enacted.

Williams (2002) promotes an approach which is similar to that of Artemeva et al. (1999). She makes one aware of engineering disciplines which “are integrating communication into their technical courses” (2002:94). However, she introduces a work-integrated learning (WIL) dimension which coincides with the co-operative learning phase of the current investigation. According to Williams (2002), the integration of language and technical skills is facilitated by certain companies:

such as Motorola and Delphi Automotive Systems (who) are giving students in internships and co-operative programs the opportunity to develop their communication skills as they gain first-hand experience of real engineering work (2002:94).

The significant benefit to the student’s expertise in terms of language is the „real“ opportunity of being able to produce documents in the workplace. Within this framework, students would gain an even further advantage in terms of „real“ language used in context from the “detailed evaluations on both their technical and non-technical skills, including communication” (2002:94). The student’s ability to produce documents suitable for a workplace context is illustrated in 4.4.3 (ii) of this research, which reveals how the student’s repertoire of genre rules is applied to workplace documents.

The integration approach by Williams (2002) is anchored firmly in the engineering workplace, which coincides with Winsor’s (1996) view on the writing of „meaningful“ engineering documents. She maintains that:

engineering is above all a form of activity, and the students learned it, including the kind of language use it requires, by being immersed in that activity (1996:100).

On the other hand, the approach of other researchers, such as Pappas et al. (2004), for instance, are focused on programmes which are *modeled on* the workplace, rather than located *within* the workplace. This type of approach is characterized by “technical and scientific writing and public speaking instruction” (2004:233) which is integrated into the engineering courses. The value of the particular model described by Pappas et al. (2004) is that it captures the written language suitable for document production as well as the spoken language applicable to presentations. A major feature of this type of model is that the communication course is discipline-specific rather than designed across departments or faculties. In this regard, Kain and Wardle (2005) are concerned when lecturers “in multi-major professional communication courses are asked to teach students a variety of workplace genres” (2005:1). This concern is shared by the present study, since the communication course under review shares the features of the one discussed in Kain and Wardle’s (2005) study, especially in their observation that:

The context of communication and the ways writing is used in communication courses markedly differ both from the myriad of workplace contexts that students will enter and often even from the other disciplines in which students are involved (2005:7).

In this regard, Freedman et al. (1994), in a study which involved classroom and workplace genres in different disciplines, found that in the acquisition of new workplace genres:

None of this know-how will have been made available through simulations, no matter how realistically or elaborately staged (1994:221).

A significant reason for the difference mentioned above is that genres learnt by students in the communication classroom are shaped by classroom situations, which differ from discipline to discipline, while the genres enacted in the workplace “are inherently linked to the work people are accomplishing” (Kain & Wardle, 2005:5). Another point made by these researchers is that, in terms of genre rules used in preparing documents, students tend to rely on rubrics and *form* in Yates & Orlikowski’s (1992) sense, while workers are inclined to adapt these genre rules as demanded by the workplace situation, even to the point where the genre rules are modified. This inclination in the workplace to modify genre rules inherited from classroom contexts - integral to one of the research questions of this study – is supported by Kain and Wardle’s (2005) claims that “genres must be adapted to communities and contexts” (2005:6), and that workers “focus less consciously on genre „rules“ and more on the work at hand, shaping genres to accomplish work-related objectives” (2005:6). In this regard, work-related objectives in the classroom are part of the concerns expressed in a more recent study by Paretti (2008), which illustrates her quest to discover “how engineering students develop communication skills and how those learning mechanisms influence classroom practice” (2008:491). She has found that students still

regard their teacher as their main audience and shape their language as such, rather than focusing on the „authentic“ requirements of supervisors or customers in the workplace. In this regard, Winberg (2007) makes the following observation about classroom writing practices in general:

Academic writing tends to be intra-professional, and intra-disciplinary, formal and technical in register, privileging the academic genres (essays and research reports): this results in the decontextualized nature of academic writing and causes students to experience confusion in terms of the purpose and audience of their writing (2007: 795).

Freedman et al. (1994) share Paretti's concern about the way engineering communication skills are developed, while agreeing with Winberg in terms of the link between genre and context:

It is only through immersion in workplace contexts that writers can develop the practical knowledge and the situated cognition necessary to genre knowledge (1994:222).

In the current study, the findings have shown that the communication course does not always provide authentic, work-related materials for writing documents such as memoranda and reports, as shown in 4.3.1.2. In this way, students would also view their lecturer as their main audience, and confuse the actual purpose of genre training. Consequently, they would shape their language to suit the assessment practices of the lecturer instead of gearing their efforts towards the genre rules that have relevance for workplace documents. Paretti (2008) promotes discipline-specific communication courses, but adds the further dimension of “social interaction” between the communication course and the engineering course components. Therefore, within this framework:

communication assignments in design courses offer critical opportunities for students to learn not „how to write a progress report,“ but how to effectively construct reports, design notebooks, and other texts to best support the engineering work and exchange necessary information among subjects (teachers, students, engineers, managers, etc.) (2008:493).

2.3.4 GENRES AND ACTIVITY SYSTEMS

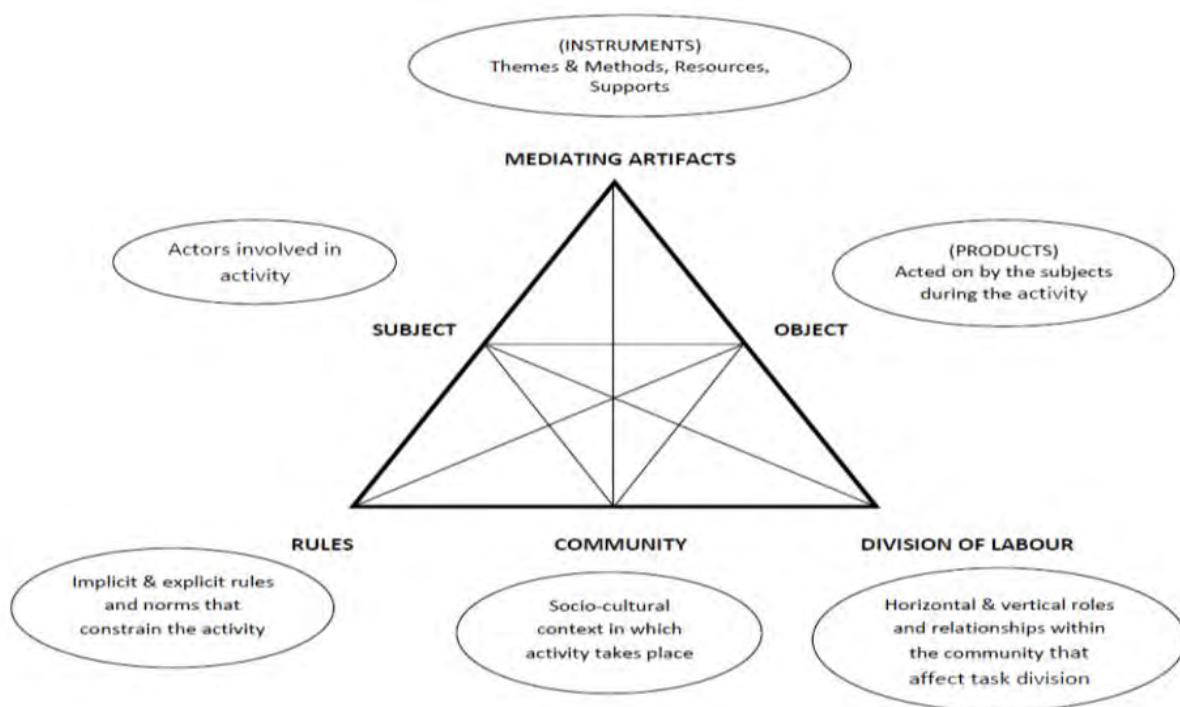
In order to provide a broader representation of the transfer of genre rules between the classroom and the workplace, this research offers a social perspective which sees the classroom and the workplace as activity systems within an activity theory framework. Activity theory is based on the work of Vygotsky (1978), and proposes that activities occur in social settings which include individuals or groups of individuals working towards a common goal. According to Kain and Wardle (2005), activity is “communal, constrained by rules and divisions of labor, and directed toward outcomes, and mediated by tools and symbols” (2005:11). In activity theory, a significant distinction is drawn between the „tools“ and „symbols“ of the activity on the one hand, and „mediation“ on the other. In the Vygotskian framework, the tools and symbols can only be

understood in relation to mediation. This is evident in Vygotsky's (1978) notion that "the basic analogy between sign and tool rests on the mediating function that characterizes each of them" (1978:54). In this regard, Kain and Wardle (2005) focus on shared conventions in activities:

The rules include formal requirements, informal habits of work, and shared conventions that shape the activity and operate in the broader social context. Rules also include language conventions, such as grammar, syntax structure, style, and format that the subject and the community consider when working with genres (2005:12).

In an activity system, genre rules could be seen as regulating the activity, while genres are the tools which mediate the activity. In this regard, Walker (2002) has found that: "Genres, therefore, might be seen also as tools for mediation" and "written genres help mediate the actions of individuals with others" (2002: 66). In order to locate *rules* and *mediation*, as well as other aspects of an activity system, this research uses Collis and Margaryan's (2004) framework:

Figure 1: Activity system



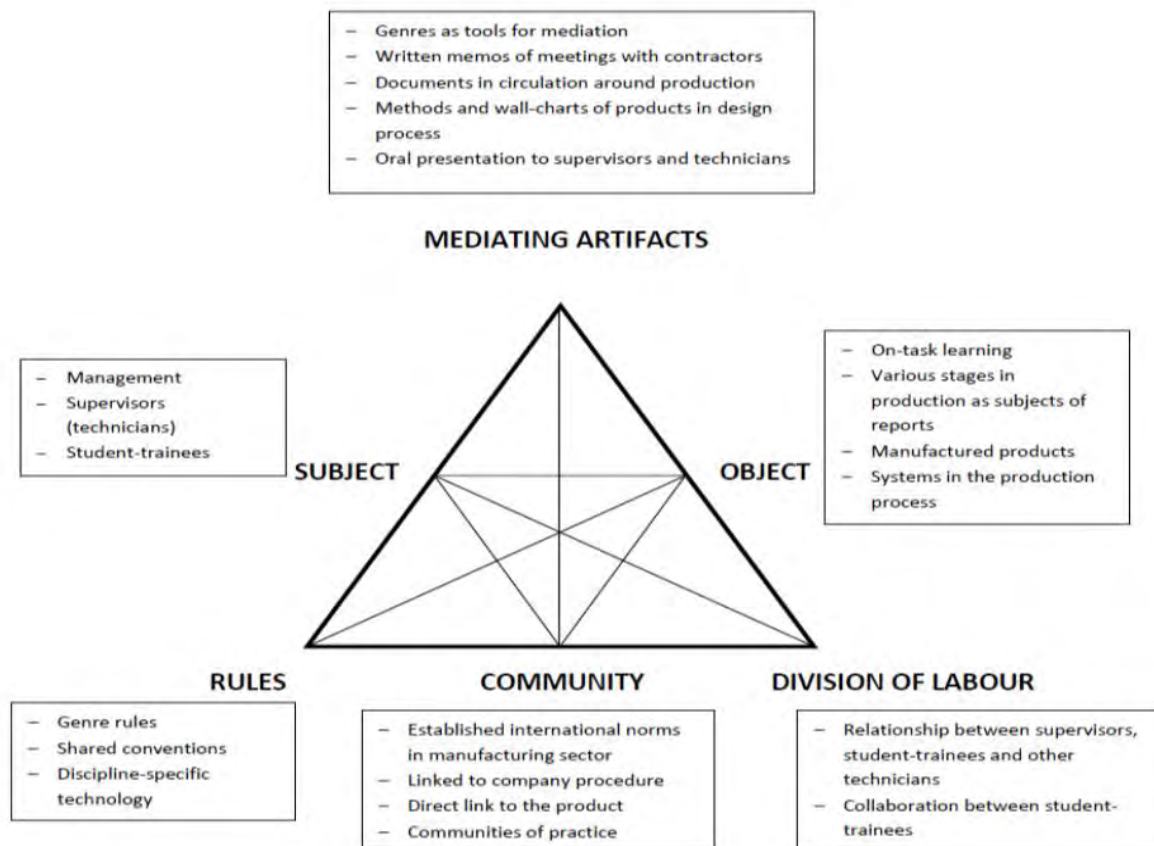
Adapted from: Collis & Margaryan (2004: 41)

They distinguish between mediating artifacts, subject, and object. The mediating artifacts, or „instruments“ are defined as “Theories and methods, resources, supports, and online tools and

environments that mediate the activity” (2004: 40). The subjects are “actors involved in the activity”, while the objects are products “acted on by the subjects during the activity” (2004: 40). These points of the activity system are illustrated in Figure 1 above. The top section of the activity triangle, on which those points are plotted, represents the part “mediated by cultural tools” according to van Aalst and Hill (2006: 26). The bottom section of the image depicts the “mediating social world in the subject-object relationship” (2006: 26). These are the rules, which regulate the activity; the community, which is the social and historical context of the activity; and the division of labour, which refers to the relationship between the various agents on the task.

Figure 2 illustrates how the activity system above relates to genres and genre rules as part of an activity system in this study.

Figure 2: Genres within the activity system



Adapted from: Collis & Margaryan (2004: 41)

Genre rules are seen as mediating tools within the activity system constituted by the engineering workplace. They represent a knowledge base that the student brings into the activity system as a student-trainee. This knowledge is the ability to employ genres specific to actions which are socially determined in order to produce the documents or presentations to mediate between the subject and object of the activity system. The subjects are mainly the supervising technicians and other student-trainees who perform tasks which are determined and guided by certain documents (spoken or written). The object could be perceived on two levels. Firstly, it could refer to the finished product or a stage in the production line; or it could be a system that has been installed. Secondly, it may refer to on-task learning, which is the main objective of experiential learning. The focus of the study is on the documents (genres) which direct the task, as well as the documents produced as part of task completion. In terms of division of labour, all relationships around the task are taken into account, although the emphasis in this study is on collaboration between student-trainee and supervisor, and the documents produced as a result of this. The community in the activity system is the broader spatial and temporal context which links the engineering workplace in the study to similar workplaces world-wide. The relevance of *community* for this study is its link to communities of practice, which is discussed in the next section (2.4).

2.4 COMMUNITIES OF PRACTICE

In terms of the broader context in which this study is positioned, the focus is on individual learning as well as institutional learning within an organization. It therefore does not only seek to highlight the organization as an entity, nor does it place emphasis on the individual in isolation. Rather, the study agrees with Knight and Trowler (2001) that the two entities “cannot be meaningfully separated” (2001:47). This places one’s view of organizational learning within the framework of social practice theory. The theory has its roots in Vygotskian activity theory and communities of practice theory (Wenger, 1998; Brown & Duguid, 1991). Activity theory views the individual’s activities within an organization from a primarily social perspective, as indicated in 2.3.4. The individual’s ability to learn is based on his/her engagement with other individuals, with the project as point of departure. Furthermore, as individuals engage with each other, they become participants with shared goals and objectives linked to the project as well as to their own development within the organization. In this process the learning that takes place leads to the formation of an identity which becomes intertwined with that of other members of the project group. This view leads one from an individualistic orientation towards a focus on social participation in shared activities. The systematic ways of acting within a group is possible because the group has its own rules and therefore members “operate within a common organizational environment” (Knight et al., 2001:49). Community of practice theory, in Wenger’s (1998) terms, is focused on “learning as social participation” (1998:4). Wenger is concerned with practices or activities which are involved within communities, as well as the

identities which are constructed through these practices. In this study the common organizational environment within which the student-trainee's participation takes place is investigated as part of the observation and interview items discussed in 3.5.3.3 (the fourth set of items). This environment includes the discourse practices as well as artifacts such as wall charts and signs which signal the identity of the community of practice constituted by the engineering workplace.

The term „reification“, for Wenger, refers to the process that gives form to experience by producing objects “that congeal this experience into „thingness””(1998:58). Reifications are, in a sense, the observable entities that result from participation in a community of practice. They are not only the products, but also the processes at play when we are actively involved in an organization. This study has found evidence of reifications, for instance, on notice boards, on personal computers, and electronic messages which create a constant awareness of the community of practice within which the student-trainee operates, as discussed in section 4.4.4. We take our experiences into our active engagement, but the reifications also shape our experiences. Produced by individuals, from a community of practice perspective they are “crucial to the success of the enterprise” (Wenger, 1998:47).

According to Wenger, one should take into account the tacit as well as the explicit in an understanding of interactions within a community. This includes „implicit relations“, „well-tuned sensitivities“, and „subtle rules of thumb“ (Wenger, 1998:47). In this regard Ealy (1998) comments on a „matrix of meaning“ in the language used by members of a community of practice (1998:1). This refers to the unspoken cues and gestures, a kind of code which is learnt within a community over a period of time and involving a number of interactions. It includes various types of speech acts, and non-verbal gestures, which a person should take cognizance of, in order to investigate the full range of messages transmitted in an organization. For instance, Allee (2000:4) points to a “shared repertoire” among members of a community which emerges in the documents, vocabulary, and artifacts of the community (Allee:2000:4). In this regard, the findings discussed in 4.4.4 of this study point to co-operation between the student-trainee and other trainees which is built around the particular task which they are engaged in, collectively. These findings also show how this shared understanding may even transcend the difficulties they might have experienced before, based on differences in language background.

This study suggests a link between communities of practice and Gee's (1996) notion of discourse communities. For instance, Gee (1996) sees a discourse community from a social point of view, positioning the individual “as a member of a socially meaningful group” (1996: 131), which is similar to Wenger's (1998) perspective on communities of practice. Furthermore, being part of a community of practice involves a number of interactions over time. Gee (1996: 127) calls attention to a number of activities such as “gestures, glances, body positions” in a discourse community”. The relevance of this synergy in terms of the current study lies in the way the investigation into discourse can be conducted. Interaction in classroom discourse may be compared to participation in a workplace community of practice in order to establish how a

student has made the transition between the two contexts. In this regard, Jacobs (2009) has shown that:

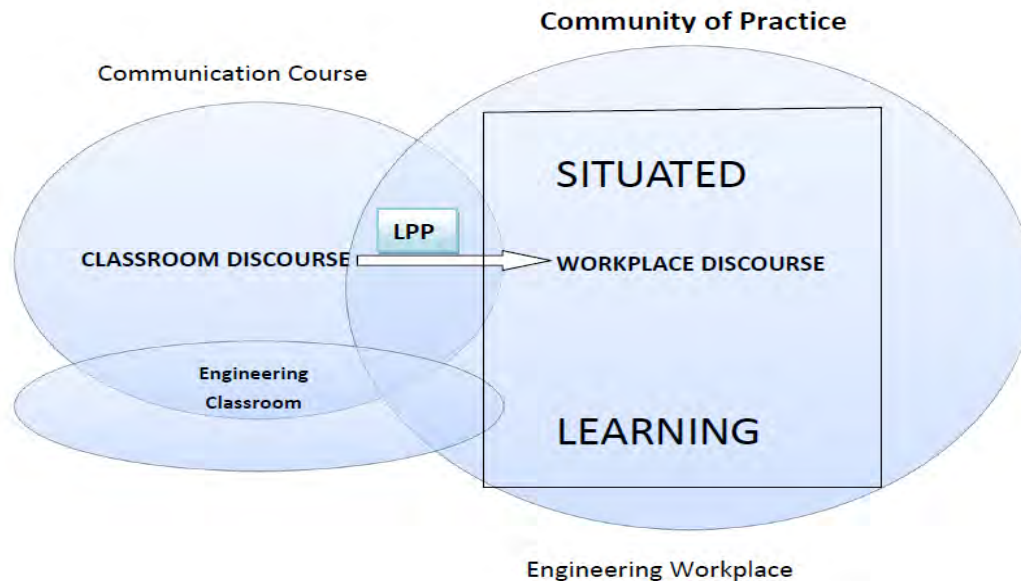
It is through participation in the disciplinary discourse community, over the period of their studies that students increasingly take on the discourse and develop the identity of being a member of that community (2009: 241).

2.5 SITUATED LEARNING

Lave & Wenger's construct, „situated learning“ is located within social practice theory. They see learning as “an integral part of generative social practice in the lived-in world” (1991:35). This view of learning shifts the spotlight away from cognitive processes and towards social practice, with learning as a characteristic of social practice. In this sense, learning takes place within a community of practice, with the learner constantly interacting with other learners while being engaged in the various authentic activities of that community. Within a situated learning framework, the individual shapes his/her identity and negotiates meaning in everyday interactions. In terms of locating situated learning within a community, Moore (1998) challenges Lave & Wenger's ideological shift from the individual to the community. Speaking from the point of view of cognitive theory, she claims that in a situated learning framework: “the person does not even exist, theoretically, until he or she is created by context” (1998:6). Moore makes the assumption, it seems, that Lave & Wenger reject „learning from a cognitive perspective“ out of hand. The available literature does not support this assumption. For instance, Wenger (1998) explains that he does not “make any sweeping claim that the assumptions that underlie (his) approach are incompatible with those of other theories” (1998:279). Furthermore, Lave (1996) appears more concerned with the inclination of cognitive theorists who claim that: “learning and development are distinctive processes” (1996:12). From her perspective, she argues that learning activity involves “extending what one knows beyond the immediate situation, rather than involuting one's understanding „metacognitively“ by thinking about one's own cognitive processes” (1996:13). Therefore one has to argue that the situated learning approach does not locate itself in direct contrast to a cognitive approach to learning; rather, it shifts its focus, thereby enabling one to investigate what happens when individuals learn in real situations, while taking into account what these individuals bring to the context in which they learn. In this study, situated learning is a useful construct for describing how the student-trainee interacts with other colleagues as well as supervisors while working towards a common workplace goal. This interaction is explored in section 4.4.1. The construct also provides a suitable framework within which to locate the skills that the student has brought to the workplace from the classroom. This could make it possible to determine the extent to which the skills used in the situated environment of the workplace have been transferred from the classroom.

Figure 3 locates situated learning within a community of practice framework together with legitimate peripheral participation (LPP), which is discussed in 2.6 below. Figure 3 also illustrates the transition between classroom discourse and workplace discourse in this study from a community of practice perspective.

Figure 3: Framework for community of practice



2.6 LEGITIMATE PERIPHERAL PARTICIPATION

Lave & Wenger's (1991) notion of "legitimate peripheral participation" (LPP) is useful in describing the contexts in which the students in this research will find themselves when entering a South African organization. The "peripherality" of the construct is a positive term (1991:37) since the authors explain that, even though a newcomer's participation may be called "peripheral participation" it is not necessarily disconnected from practice within a community of practice. The term also indicates a way into the community, and, because there is no counter term such as "central participation" in the construct, it also suggests that participation is ongoing (1991:36-7). The construct LPP is also helpful in thinking about transformation in the identity of individuals who are engaged in learning as an ongoing activity in a community of practice.

Lave & Wenger's (1991) concept of "legitimate peripheral participation" focuses on the learning which occurs while the learner is involved as a „novice“ in the practice of the „expert“, initially with limited responsibility. At this stage the novice operates on the periphery of the community.

As the beginner or novice moves from the periphery towards the center of the community, she becomes more active and engaged in the culture of the community. In this way, she would ultimately be able to take on the role of the expert.

In order to understand the dynamic relationship between the expert, the novice and the organization in this study, it is necessary to view the relationship from the perspective of Wenger's (1998) participation and reification. Wenger's use of the term, "participation" goes beyond the denotation of „taking part in something" and assumes the connotation of "active involvement" and membership of a community of practice (1998:55). Here Wenger does not include in the discussion every entity which contributes towards the functioning of the social world as a system. Rather, he restricts his discussion of "participation" to the actors in the organization, those who, through the course of their active involvement, are able to "negotiate meaning and to recognize an experience of meaning in each other" (1998:286). Participation in Wenger's terms is addressed in this study as part of Observation and Interview Items (3.5.3.3), specifically in the second set of items. The discussions in that section relate to the way the supervisor initiates a task, the consultations between the supervisor as expert and the student-trainee as novice, and the student-trainee's understanding of the supervisor's messages.

2.7 CLASSROOM AND WORKPLACE DIRECTIVES

The mediatory function of language in social interactions is probed in research question two, outlined in section 3.3.2, which deals with directives in workplace settings. This part of the study also seeks to determine the way in which student-trainees respond to these directives. In order to establish a suitable framework for this question, it was decided to introduce the work of Iedema (2000), Halliday (1978), and Morand (2000). Iedema interrogates the linguistic structure of messages within the organization, and the authority-subservience relationships which inform the language of these messages. Iedema (2000) advances the claim that employees are required to operate within the hierarchy that exists within an institution and have to respond to instructions according to "pre-established rules in particular ways, at particular times" (2000:73). Against this background, he focuses on the linguistic construction of authority in directives, showing that these could have the function of establishing and reaffirming positions of authority. He has found, for instance, that the linguistic construction of instructions potentially creates institutional distance. The distance between manager and employee is achieved in the transformation of the utterance "from the immediate to the passive" (Iedema, 2000:74). In this way, the aspect of authority enters the instruction, since it limits "space for dialogue, disagreement, or differing points of view" (2000:74). In order to illustrate his point, Iedema provides the following example of an instruction:

From 21 September 1992 **all registered agents will be required** to complete a declaration (Form 932) in relation to every application with which they assist (2000:74).

Firstly, within the context of the institution, there would be no doubt about the authority of the originator of the message. Secondly, the pragmatic force of *Complete form 932* is couched in the generalized „you“ (all registered agents) and the embedded „I“ (will be required). As Iedema (2000) indicates, these serve to reinforce the “hierarchical distance between the commander (s) and the commandee(s)” (2000:74), having the further impact of making the instruction non-negotiable. An implication of Iedema’s example for the present study is that student-trainees in the workplace may be better equipped to respond to this institutional genre if they can recognize the intention behind the “specialized language” (2000:74) in which it is presented in the workplace. Specialized language used by supervisors within the context of the engineering workplace is explored in section 4.4.2 of this study. For instance, the meaning that the trainee derives from the language of the supervisor’s message is investigated in section 4.4.2 (i). Subsequently, the trainee’s response to the technical language used by the supervisor is investigated in section 4.4.2 (ii). Iedema’s claim that “Directives are concerned with organizing action in social institutions” (2000:74) resonates with the concern in the current investigation which probes similarities and differences in the individual’s response to directives in the social institutions of the classroom and the workplace. Iedema’s study reflects the viewpoints of the Australian School of genre studies, especially in the work of researchers such as Halliday. For instance, Halliday (1978) advises that:

in order to relate the linguistic realization of social meanings to the linguistic system, it is necessary to depart from the traditional monolithic conception of that system, at least at the semantic level, and to consider instead the particular networks of meanings that are operative in particular social contexts (1978:81).

In this regard, Byrnes (2008) refers to Halliday’s (1994) notion of language which is integrally linked to context in her contention that:

texts become the unit of analysis for linking forms of language, the code, to a particular situation and, beyond that, to its larger context (2008:109).

Halliday’s views above provide insights which may be useful for investigations into the contexts of the social institutions constituted by the classroom and workplace in general, but, more importantly, Halliday’s notion of „linguistic realizations“ in „particular networks of meanings“ arouses our awareness of the precise meanings inherent in linguistic structures in discipline-specific classrooms as well as engineering workplaces. Our understanding of Iedema’s (2000) outline of directives also benefits from Halliday’s (1978) clarification of the theoretical interplay between language and the environment, particularly how “environmental features are projected

into text” (1978:143). In this scheme, Halliday distinguishes between the components of *field*, *tenor*, and *mode*. For the purposes of this discussion, Halliday (1978) presents the three components in the following way: language in terms of social situation “is structured as a *field* of significant social action, a *tenor* of role relationships, and a *mode* of symbolic organization” (1978:143). The component focused on in this study is tenor, in terms of which Halliday provides two distinct socially determined functions, called first and second order roles. According to Halliday, “Social roles of the first order are defined without reference to language”, and:

Second order roles are those which are defined by the linguistic system: these are the roles that come into being only in and through language, the discourse roles of questioner, informer, responder, doubter, contradictor and the like (1978:144).

Halliday’s (1978) notion of social roles „which are defined by the linguistic system” offers insights into the social roles of manager and trainee in an engineering workplace, and the way these roles are determined in the linguistic structure of directives and other genres of authority-based interactions. These viewpoints are supported by researchers such as Morand (2000) particularly with regard to his assertion that “power differentials among superior and subordinate actors in organizations are enacted through ongoing role behaviors, specifically through language behaviours used in everyday encounters” (2000:235), and Iedema’s (2000) affirmation that directives and other institutional genres “are concerned with organizing action in social institutions” (2000:74).

2.8 COLLABORATION

The research question on collaboration in group assignments, as discussed in section 3.3.1, is aimed at investigating the extent to which the assignments involving technical language in the classroom prepare students to engage in similar social practices in the engineering workplace. In this regard, Artemeva et al. (1999) base their findings on situated learning, and view “learning as a social process during which learners first observe and then gradually learn through carefully-orchestrated processes of co-participation” (1999:7). In the present research, a preliminary series of investigations in the engineering workplace revealed that the trainees were observed watching the experienced technicians closely before taking a more active part in the design of projects and the preparation of documents for supervisors and managers. This participation and the use of technical language in the completion of documents such as final reports were regarded as instances of situated learning. On the other hand, students are also required to collaborate during assignments in the communication classroom. These assignments require knowledge of technical terminology as well as a familiarity with the genres of the written and oral report. The objective in this type of exercise is transfer of skills from the classroom to the workplace. Another aim is

that students should be made aware that flexibility is required in their approach. To this end, Artemeva et al. (1999) explain that: “technical students can know how to use language most effectively ... only if they are flexible enough and rhetorically savvy enough to change when new circumstances call for change” (1999:8). These researchers observed collaboration in the form of electronic course newsgroups at Carleton University, which complemented the students’ coursework in engineering. Williams (2002) also investigated transfer of skills when students collaborated in co-op programmes integrated into their coursework. Her findings reveal teamwork that included linguistic (non-technical) skills: “As a result of working for these companies, students gain experience in producing technical reports and receive detailed evaluations on both their technical and non-technical skills, including communication, teaming and project management” (2002:94). Furthermore, as an example of technical language and teamwork in an engineering workplace, Yates, Orlikowski and Hyun-gyung (2005), found a high degree of collaboration among team members of a company called Little Company (LC). (2005:90). These team members were located in four cities in the United States and depended only on telephones and e-mail in order to conduct their project work. The researchers provide an explanation of the collaboration they investigated:

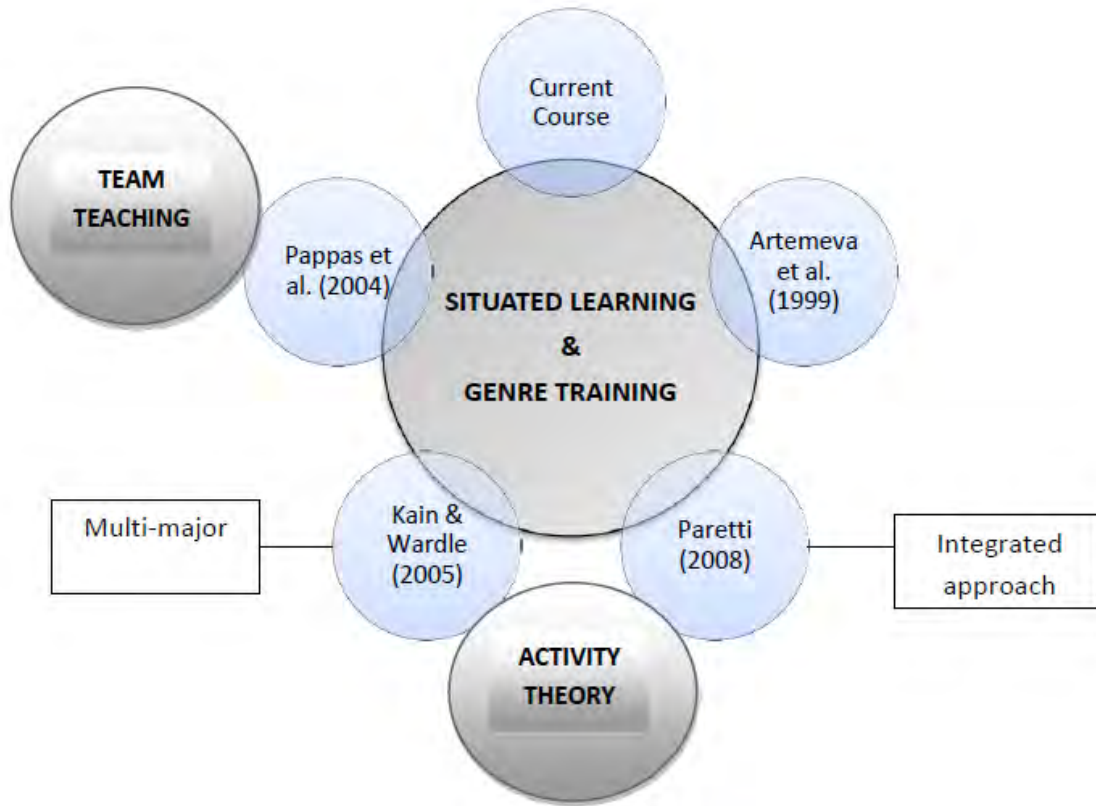
To address the question of how members of LC used technology to co-ordinate and align their distributed work, we draw on the notion of genre as typified social action to examine the e-mail exchanges among the members as they collaborated to develop a software product (2005:90).

The examples of collaboration above serve to underline the importance of group assignments in the communication classroom, and this research will draw on those examples in order to find a perspective from which to view technical language in group assignments, as well as the extent to which such skills are transferred to workplace projects, in section 4.4.1.

2.9 APPROACHES FOR THE COMMUNICATION COURSE

The successful transfer of language related to engineering courses depends largely on the effectiveness of the communication courses which offer courses in language and structure to engineering students. In order to build a framework within which to propose a suitable engineering communication course, this study examines four approaches, one based on situated learning and genre training (Artemeva et al., 1999); another focused on a team-teaching method (Pappas et al., 2004); and two promoting a combination of situated learning and activity theory, one of which is a multi-major model (Kain & Wardle, 2005), while the other offers an integrated approach (Paretti, 2008). Figure 4 depicts the four approaches mentioned above in relation to the current communication course.

Figure 4: Approaches to the communication course



Artemeva et al.'s (1999) study at a Canadian university has found that situated learning provides the theoretical space for a communication course which "provides a context in which students acquire rhetorical skills and strategies necessary to integrate into a discipline-specific discourse community" (1999:1). This contribution is valuable because, firstly, it emphasizes the language dimension (*rhetorical skills*) which is essential to the present study. Secondly, the viewpoint of these researchers sits well with the theories underpinning the current investigation: the *discourse community* aspect is consistent with the work of theorists such as Gee (1992, 1996, 2000, 2005), who advocates a social discourse community; Wenger (1998), who introduces the community of practice theory; and Lave and Wenger (1991), who promote the theory of situated learning. The main thrust of this approach is that the communication course should facilitate the transition from the engineering classroom to the engineering workplace because "engineering students could acquire linguistic and rhetorical strategies that would provide an initial site of professionalization" (1999:3). The main features of the course in Artemeva et al.'s (1999) study in comparison with those of the current communication course are shown in Figure 5.

Figure 5: Artemeva et al.'s (1999) approach

	Artemeva et al. (1999)	Current Communication Course
Similarities	1. Engineering classroom: initial site of professionalism – parts of engineering course material integrated into communication course	1. Engineering topics used in communication course material
	2. Real situations based on engineering workplace	2. Teaching in communication course geared towards the workplace of the discipline

Two main challenges to the communication course are addressed in Artemeva et al.'s (1999) study. The first difficulty lies in the engineering students' general negativity towards linguistic skills as part of their coursework in engineering, and their "attitude that communication skills are not necessary to their success as engineers" (1999:4). The response of the researchers is to ask the engineering students to import certain parts of their course material into the communication course. They also promote an environment that would make it possible for these students to join a community in which "they may be guided towards a mastery of genres appropriate to their discipline" (1999:4), thereby facilitating integration of communication skills into the engineering discipline. The second challenge exists within communication courses which generally operate on simulations which have little or no connection with professional engineering situations. The researchers respond to this by introducing real situations based on the engineering workplace. The result is that: "Rather than viewing their coursework as dummy runs or simulations, students need to perceive what they are doing as being real and having consequences" (1999:4). One example of this approach is for the students to choose a part of their sub-discipline such as "methods of corrosion prevention in metals" (1999:10) for an assignment after discussing it with their communication instructor as well as their peers. This negotiation has the benefit of locating engineering in the communication course, and also improves the perception that the communication assignment is part of learning the engineering discipline while introducing the student to the linguistic aspects of the engineering discourse community. The main thrust of this approach is that students take the communication course simultaneously with their engineering course, and engage with "authentic exigencies that help students explore and acquire the genres of their disciplines" (1999:17). A further and more important effect of the approach is that engineering students are coached in a way that makes transition into the engineering workplace achievable.

Pappas et al. (2004) investigate a team-teaching approach to communication at Virginia Polytechnic which sees lecturers from communication and engineering teaching within the

engineering discipline. Unlike the communication course under review in this study, which currently teaches language-related coursework in the first academic year only, the researchers have found a communication course where “communications instructors and engineering faculty members team-teach discipline-specific engineering writing and speaking skills over students” three years of study in the department” (2004:233). The gist of this type of programme is that the communication lecturers provide the engineering lecturers with support in using technical language in work-related contexts. This has the advantage of taking linguistic strategies beyond the scope of the classroom, which is, as they claim, “because of our desire to graduate students who would far surpass professional writing and communications standards for entry-level engineers” (2004:234). The focus of the communication course starts during the first academic year, but its ultimate concentration point is the workplace, therefore it aims to meet the demands of the discipline as well as “constituency expectations” (2004:241). This teaching approach is compared to the current communication course in Figure 6.

Figure 6: Pappas et al.’s (2004) approach

	Pappas et al. (2004)	Current Communication Course
Differences	1. Team teaching: lecturers from communication & engineering teach within the engineering discipline	1. Lecturers from communication and engineering teach in their own disciplines
	2. Teach for duration (3 years) of curriculum	2. Communication lecturers teach during first semester or first academic year only

The advantage of this team-teaching approach, as the researchers have discovered, is that the communication lecturer is always available to engineering staff whenever problems of language become apparent, so that these may be addressed without delay. This hands-on approach forms the type of co-operation between engineering and communication lecturers, as well as students and other constituencies, which makes it possible to “reach beyond “engineering and technical fields to explore and experiment with a variety of interdisciplinary topics to determine how they relate to the study, teaching, and practice of engineering” (2004:241).

Kain and Wardle’s (2005) study is located in two institutions: a mid-western university and a private eastern university. The purpose of the multi-major communication course offered at these institutions is “helping students learn to analyze and produce proposals and reports for relevant professional contexts”; a further objective of the course is for students “to adapt their own

writing to varied rhetorical situations” (2005:15). One of the principal assumptions in the course is that the interactions between lecturers and students in the classroom may not facilitate students’ preparation for the workplace since “communication practices of workplace professionals occur in contexts that are more dynamic, fluid, and collaborative than the contexts of classrooms” (2005:2). Therefore the researchers rely on situated learning genre studies, and activity theory in order to establish a more suitable approach. In terms of legitimate peripheral participation construct in situated learning theory, Kain and Wardle (2005) have found that: “In workplace settings, people learn by doing, often beginning as apprentices who complete increasingly complex tasks as they become oriented to the workplace”. An understanding of genre studies also provides a useful perspective for the communication course, as Kain and Wardle (2005) indicate:

As part of professional enculturation, participants learn new contexts in novel ways; people become more centrally involved in work activities as their expertise and communication practices align with those of their communities (2005:5).

Figure 7 illustrates the above approach in relation to the current communication course.

Figure 7: Kain& Wardle’s (2005) approach

	Kain& Wardle (2005)	Current Communication Course
Similarities	1. Multi-major communication course	1. Taught across disciplines
	2. Students learn genres for relevant professional contexts	2. Genres taught for workplace linked to discipline

These researchers base their view of the classroom and the workplace on activity theory, recognizing the different activity systems at play in the classroom and the workplace. Since the workplace has its own activity system, workers are in tune with this, as described by Kain and Wardle (2005): “Competent workers” apply themselves “less consciously on the work at hand, shaping genres to accomplish work-related objectives” (2005:6). Within this approach, the main objective is transfer of writing and speaking skills to various disciplines and, ultimately, to the workplace. In this regard, Kain and Wardle have found that transfer is likely to occur when the environment is created for repeated practice of linguistic skills linked to the discipline. They explain that “when people are required to repeat activities in different situations, transfer is more likely to occur”. They also noticed: “when the knowledge and skills called for in a new situation are so similar to those previously learned that transfer is essentially automatic” (2005:8). They

also suggest that students should be taught to study the principles in one situation in order to apply those principles to another situation. In this way, “When subjects can make explicit abstractions and explore connections between apparently disparate contexts” (2005:8) transfer of language skills is also possible. In this regard, Kain and Wardle (2005) believe that students should become critical about the genres that they use in the communication course and in their discipline. Therefore, according to Kain and Wardle, “If students are able to transfer these skills to other contexts, we believe they will have learned to adopt strategies for investigating and enacting genres as they encounter them in various new activities” (2005:32).

Paretti (2008) promotes an approach to communication courses that is similar to that of Kain and Wardle (2005) in its theoretical basis: situated learning and activity. However, Paretti’s approach also differs from Kain and Wardle’s (2005) approach in two respects. Firstly, whereas Kain and Wardle endorse a multi-major course, Paretti (2008) promotes a discipline-specific course; secondly, Kain and Wardle (2005) concentrate on language in general, while Paretti (2008) focuses on writing. Paretti (2008) sees writing as a social activity, and claims that: “the context constitutes the situation that defines the activity of writing; to write is to address the situation by means of textual production” (2008:492). Paretti (2008) investigates an engineering design course in which assignment writing is an integral part of the engineering design project. At no point is the writing of assignments done in isolation. In fact Paretti (2008) claims that: “faculty can create and implement communication assignments that help students develop an analytical, metacognitive approach to reports and presentations that resembles, to a large degree, the engineering design process” (2008:495). The design course is conducted by a single instructor who co-ordinates the course and also takes the position of project manager. The students work in groups, and the projects are either ongoing or have real clients. In this way the classroom is transformed into a project venue and the projects become “sites for situated learning” (2008:496). This course is shown in relation to the current communication course in Figure 8.

Figure 8: Paretti’s (2008) approach

	Paretti (2008)	Current Communication Course
Differences	1. Genre training such as assignment writing is an integral part of the engineering design project	1. Genre training is done as part of communication
	2. Design course: single instructor who is also the project manager of ‘real’ project	2. Lecturer employed to teach the communication course only

In terms of activity theory, Paretti (2008), like Kain and Wardle (2005), sees the classroom or project venue as well as the workplace as sites of activity systems, and feels that: “activity theory provides a useful lens for understanding how such learning unfolds in the design classroom. Each project produces the following items to be graded by the instructor during the course of the year: a project notebook, formal reports, two oral presentations, and “a poster summarizing the project” (2008:496). Finally, a major objective of the project manager (instructor) is to assist students in developing their language skills. This entails:

Designing and evaluating meaningful assignments, and, equally important, creating an environment that connects assignments to meaningful project needs and helping students understand the functions reports and presentations serve in supporting engineering design” (2008:500).

This section will inform the recommendations for the communication course in section 5.6. The next section (2.10) summarizes the theoretical framework within which this study is positioned.

2.10 THEORETICAL FRAMEWORK

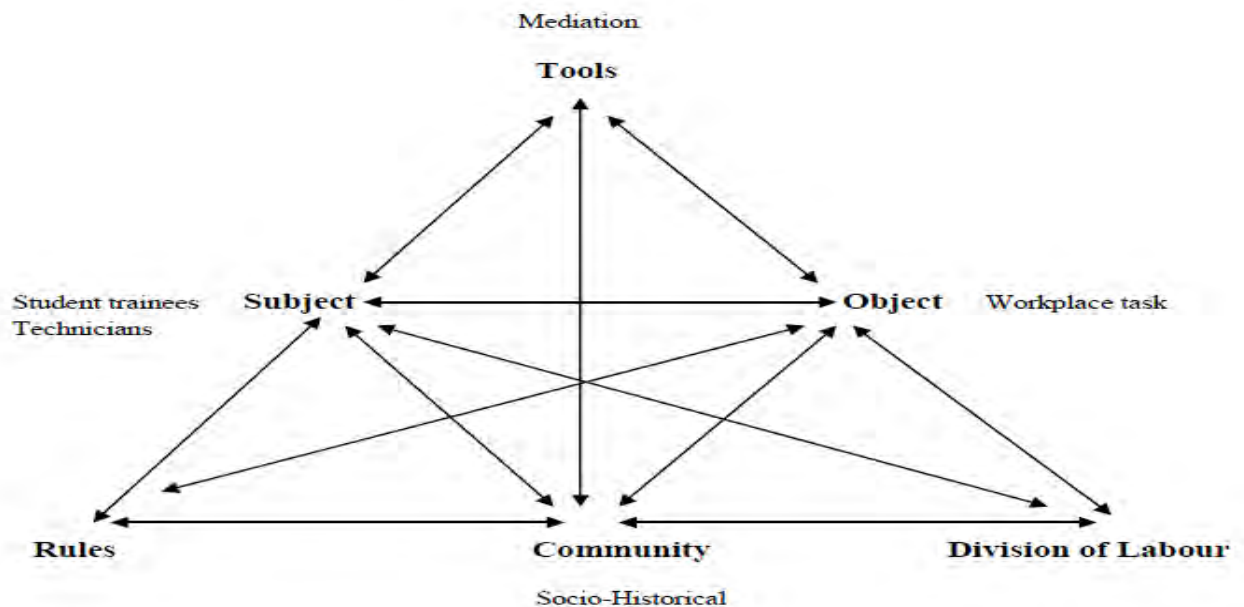
In terms of the theoretical framework informing the research, this section presents discussions on activity systems, genres, discourse communities, and transition.

2.10.1 ACTIVITY SYSTEMS

The research investigates the discourse transition between the two contexts of the classroom and the workplace. In terms of the theoretical principles which guide this study, the two contexts are seen as two activity systems, which derive from Vygotskian activity theory. Within the framework provided by this theory, the individual’s activities within an organization are viewed from a social perspective. In this sense, the individual’s ability to learn is based on engagement with other individuals with a common goal. In the current study, student-trainees in an engineering workplace are seen in terms of their interaction with other members of the workplace with the workplace task as the collective motivation for their actions. In this regard, “activities are informed by the specific settings and motives of people involved in them, as well as by the larger socio-historical and cultural networks of which they are a part” (Kain& Wardle, 2005: 123). The socio-historical aspect locates the activities in a broader context, so that they become relevant on a wider, global scale. According to Steinkuehler et al., “these activities are embedded in and linked to wide-ranging historical, cultural, and institutional systems of activity

(2005: 96). From this perspective, one sees the individuals interacting in the activity system of the engineering workplace as part of a larger engineering system of which they are a part. Therefore the inferences drawn in the current study about their interactions in the workplace should be located in the social global network of engineering systems which give rise to the local system. Figure 9 illustrates the activity system constituted by the engineering workplace.

Figure 9: Workplace activity system



Adapted from: Collis & Margaryan (2004)

Activity theory distinguishes between the tools and symbols of an activity and the mediation of these tools and symbols. In Vygotskian (1978) terms, “the basic analogy between sign and tool rests on the mediating function that characterizes them” (1978: 54). The social dimension of activity systems is an extension of “Vygotsky’s (1978) notion of the mediated relationship between subject and object to include social interaction” (Van Aast et al., (2006: 25). This view contributes to the perception of this study, which sees activity from a social point of view. In this view, the subjects (see Figure 9) are the technicians situated in the engineering workplace, while the objects are represented by the tasks linked to production in the company. In this regard, the interplay between the technicians as subjects and the tasks as objects is explored in section 2.3.4. Interactions between engineers and technicians are mediated by documents which circulate through the project “to ensure that each individual has the information needed to make subsequent decisions, calculations, or modifications” (Paretti, 2008: 493). The student-trainee in this study is part of these interactions. Therefore the documents which he/she produces are significant in the workplace as an activity system.

2.10.2 GENRES

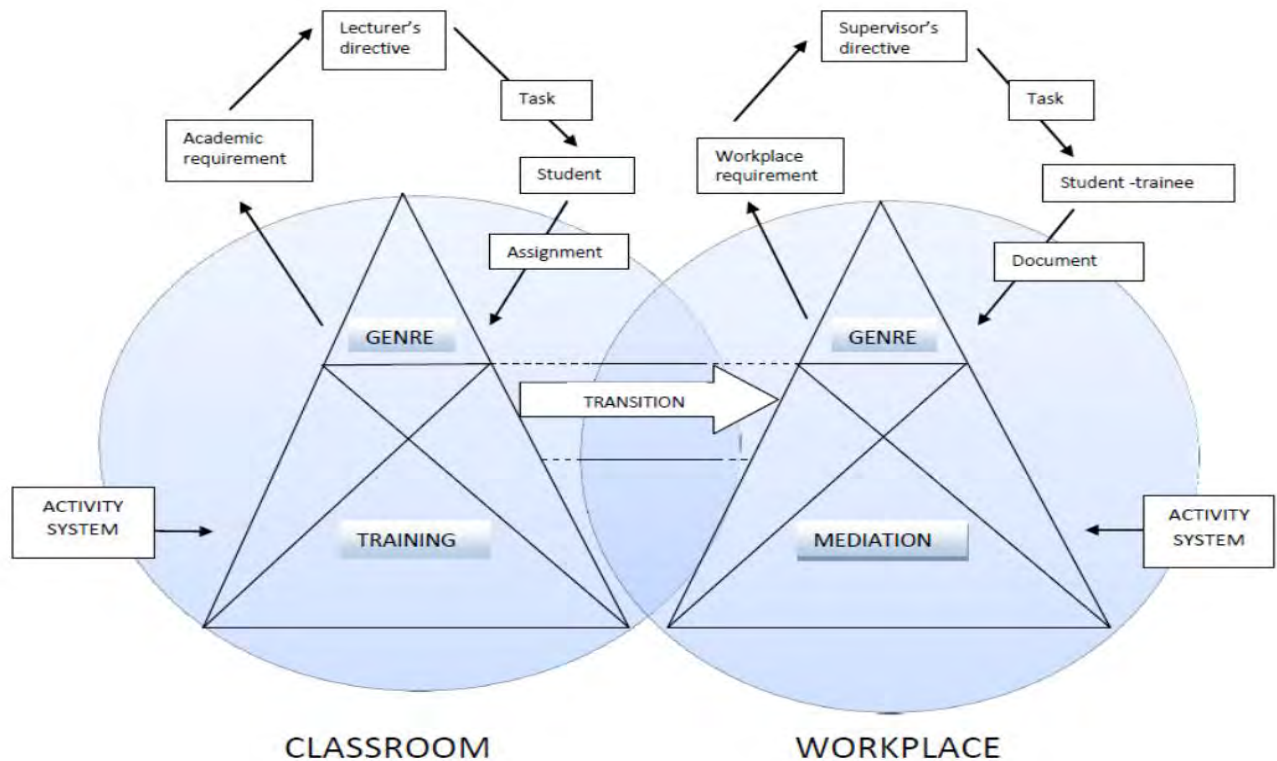
The aspect of documents produced as part of an activity system calls attention to genres which operate within the system. In this regard, the tools and artifacts which operate in an activity system change over time because of the conflicts between the individual agents striving to reach their goals on the one hand, and the constraints of the activity system on the other. According to Steinkeuhler et al. (2005), “It is these tensions and contradictions that drive change within and across systems, as individuals adapt and adopt new artifacts and tools” (2005: 96). These tensions and contradictions are what lead to the fluid characteristics of genres. In this sense, Walker (2002) states that: “the activities are what cause genres to change and what determine specific features that work within tools functioning within the system” (2002: 67). This study takes the position that student-trainees who become part of an engineering activity system, gradually become aware of the fluidity of genres and how they have to adapt the conventions of classroom genre training in order to use these genres as mediating tools. The ability to use genres as tools, in turn, depends on the way they construct genres with the conventions which recur over time and are recognizable to other subjects in the activity system. In this regard, Miller (1984) argues for “the connection between genre and recurrent situation and the way in which genre can be said to represent typified rhetorical action” (1984: 151).

With the workplace as an activity system in mind, the current study is concerned with the engineering student’s preparation for using genres as mediating tools in workplace discourse. This calls to mind Räisänen and Linde’s (2004) view of discourse in organizations:

The discursive practices of an institution or organization are intertextually linked through a variety of genres. Together all the genres of an organization make up its order of discourse (2004: 105).

This intertextual connection between genres and the organization has implications for the way the transition between classroom discourse and workplace discourse is viewed in this research. It becomes imperative that the research questions should address the way documents are produced as part of workplace discourse. The student’s preparation for the workplace in this regard should be based on an awareness of the link between genre and workplace. Figure 10 illustrates the dynamic interplay of genres between the activity systems of the classroom and the workplace.

Figure 10: Genres in the classroom and the workplace



2.10.3 DISCOURSE COMMUNITIES

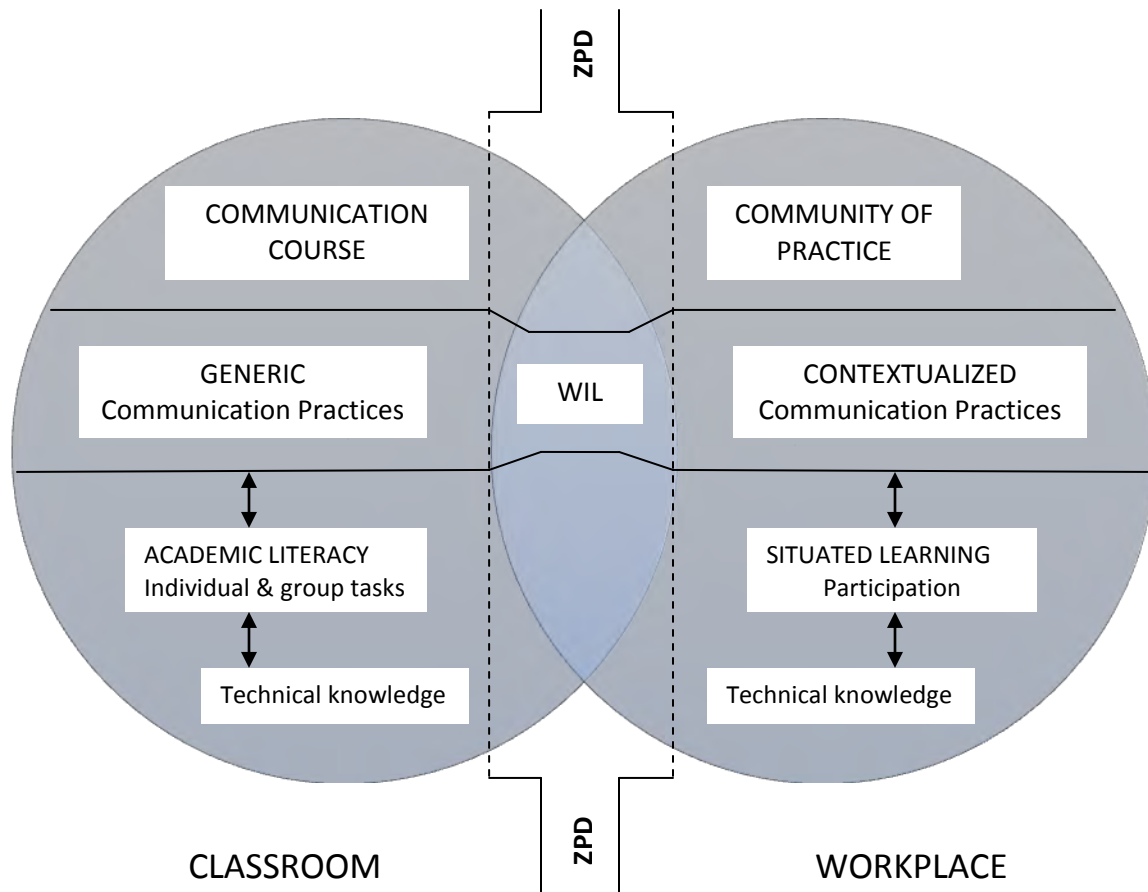
The concerns expressed above are similar to those which drive this investigation. It seeks to identify the features of discourse in the workplace that can be brought into the classroom in order to suggest suitable approaches for preparing students to make the transition from classroom discourse to workplace discourse. This study is informed by Gee's (1996, 2000, 2005) notions of discourse from a social perspective (see section 2.2). Gee (1996) sees discourse as "a socially accepted association among ways of using language, other symbolic expressions, and artifacts" (1996: 131). The significance of Gee's vision of a discourse community for this study is that one may view the students in the sample as part of this discourse community in spite of their difference in language background and other socio-economic factors in their academic lives. In this sense, the investigation sees these students as "people who associate with each other around a common set of interests, goals, and activities" (Gee, 1996:128). In terms of working together towards a common goal, this research finds synergy between Gee's discourse community and Wenger's (1998) community of practice theory (CoP). Both view learning from a social perspective, with Wenger (1998) seeing individuals in terms of "membership in a particular social network" (198: 128). Wenger (1998) calls in to question the notion of learning as the

internal acquisition of knowledge. Instead, he views learning in terms of working together in shared practice towards a common objective (see section 2.4). In terms of discourse, the CoP, according to Beckett et al., (2010), is “where novices learn through participation in activities mediated by language” (2010:319). This study adopts the CoP as a framework within which to position the preparation of the student to become a participant in the CoP constituted by the engineering workplace.

2.10.4 TRANSITION

The study is concentrated on a period of transition in which the student leaves the academic environment to participate as a novice in the engineering workplace. This experiential learning phase is the student’s introduction to the workplace discourse. Lave and Wenger’s (1991) construct, Legitimate Peripheral Participation (LPP) provides the theoretical framework to describe this phase. During the LPP phase, the individual is located on the border between being an outsider to the community, and being accepted as a participant. The student-trainee is a *novice* in this CoP, and relies on the guidance of the supervisor, or expert. The significance of this for the research is that, during the LPP phase, the trainee should be able to produce documents, both spoken and written, in the discourse of the CoP. In other words, the genres which mediate activity in this community should be recognizable to other members. The LPP construct calls attention to the Vygotskian construct, zone of proximal development (ZPD). Vygotsky’s (1978) ZPD is “the distance between” the student’s “actual development level” and the potential of her/his development (1978: 86). This provides the research with a useful theoretical background for the transition stage between classroom discourse and workplace discourse in this investigation. In this regard, Shabani et al., (2010) states that: “the ZPD was understood by Vygotsky to describe the current or actual level of development of the learner and the next level attainable through the use of mediating semiotic and environmental tools and capable adult or peer facilitation” (2010: 238). An essential feature of this research is its awareness of the engineering workplace as an activity system, which requires the student-trainee to use genres as tools to mediate the exchange of data about workplace projects. Figure 11 depicts the role of the ZPD in the transition from classroom to workplace.

Figure 11: The ZPD in the transition between classroom and workplace



The next chapter outlines the methods and instruments used in this study.

CHAPTER THREE

METHODOLOGY

3.1 INTRODUCTION

The research has a social underpinning and examines the activity systems of classroom discourse and workplace discourse. It focuses primarily on genre use and social interaction within the contexts of the communication course materials on the one hand, and various sites of engineering companies on the other. Hence the research is qualitative according to its orientation in social actions within natural settings. In this regard, researchers such as Wiersma et al. (2009), for instance, hold the view that:

qualitative research is based on the notion of context sensitivity, the belief that the particular physical and social environment has a great bearing on human behaviour (2009:14).

The „human behaviour“ in terms of genre use within a discourse context, may best be examined in its natural context rather than within a setting which is manipulated by the researcher, as would perhaps be the case in quantitative research. Furthermore, qualitative research is a suitable choice for this project because it lends itself to “flexibility in design” and “the possibility of evolving design” (Wiersma et al., 2009:232). In order to accommodate the wide range of possibilities that may emerge from the data when the two activity systems in classroom and workplace settings are studied, it may be necessary to adapt existing research designs. Subsequent to the initial design, the researcher may also need to make more adjustments later on in the project, to suit the infinite possibilities which research into language is likely to yield. In terms of the research paradigm within which this study is located, Thomas (2009) draws a distinction between a positivist paradigm and an interpretive paradigm. Research positioned within the former paradigm tends to be more scientific and fixed in its approach, whereas interpretive research is seen as “flexible” and “naturalistic” (2009:78). To this end, the current research would be positioned in an interpretive paradigm, since it needs to be flexible, both in its approach as well as its choice of data collection procedures because of the multi-layered nature of the social phenomenon it is exploring. Furthermore, it would not be possible to investigate discourse practices in the classroom and the workplace under laboratory conditions; rather, this research is concerned with an understanding of genre and discourse practices in a natural setting.

3.2 RESEARCH FOCUS

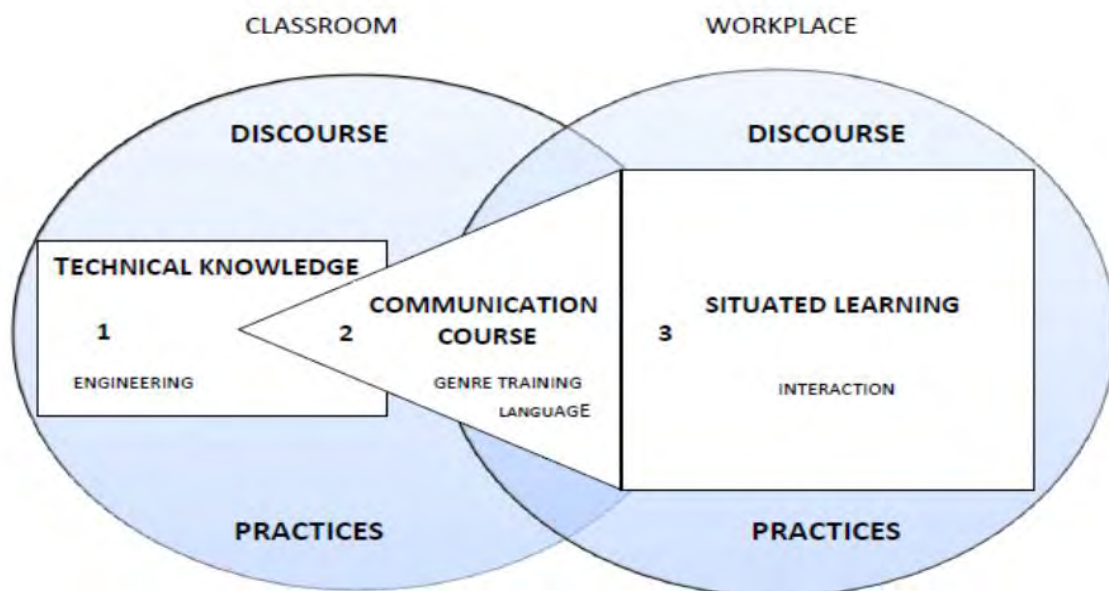
This research is located within the activity systems of the engineering classroom on the one hand, and the engineering workplace on the other. The purpose is to investigate the transition made by the student from the discourse of the classroom activity system to the discourse of the workplace activity system. The investigation focuses particularly on the way genres are enacted within these two systems, and examines which adjustments, if any, are made by the student during the transition. The main hypothesis in the study is that an investigation of the discourse of the workplace can facilitate an introduction of workplace awareness into the discourse practices of the classroom. This, in turn, is likely to contribute towards a smoother, more informed transition from the discourse practices of the classroom to the workplace. In this research the „classroom“ is constituted by the communication course as well as the Engineering Faculty at the Durban University of Technology. From a theoretical perspective, the „classroom“ also includes *artifacts* in Paretto's (2008:493) terms, which may refer to documents such as reports, notes or assignments which could assist the student in performing a prescribed task. The engineering curriculum consists of three components: academic, communication and work-integrated learning (WIL). The student's academic and WIL programme is arranged by semester (S1 to S6). The academic work in engineering is accompanied by a concurrent generic communication course during the first semester. The communication course, offered by the English & Communication Programme, teaches English language usage in various genres such as report writing and small group communication. In order to study classroom discourse practices as they manifest themselves in the three components, it was decided to focus on the following disciplines: Electronic, Industrial, Mechanical, and Electrical Engineering. The motivation for this decision is twofold: the structure of the curriculum is similar in these 4 disciplines; the companies offering WIL to these disciplines are fairly accessible; and some of these companies offer WIL opportunities to more than one of the four disciplines consecutively.

The duration of the diploma programme in engineering is 3 years (6 semesters) with the following distribution: 4 semesters of academic work and 2 semesters of WIL (P1 and P2). Each discipline makes its own rules about the structure of these 6 semesters. For instance, in Electronic Engineering, student „A“ may do P1 and P2 anytime after S1, so that the in-service training is sandwiched between the academic modules. On the other hand, student „B“ in Industrial Engineering would do P1 and P2 after the completion of S4. Each scenario presents its own benefits. For example, student A is able to enter the workplace with some technical and language training, and may apply the practical workplace experiences to the rest of the course in the following semesters. On the other hand, student B has the benefit of having completed the technical and language training of the course before entering the workplace. These are vital differences which the researcher will consider in the findings and analysis.

During the in-service semester the student performs the tasks of a technician-in-training. This a crucial period during which the student-trainees deliver their best performance in the hope that they may be offered a position in the organization, or, at least, earn an excellent grade towards their qualification. This period also demands high levels of co-operation and collaboration within a situated learning environment as well as a demonstration of their technical and linguistic skills. This is the reason why this study investigates workplace discourse practices during the WIL period rather than any other period when the technician has already achieved considerable experience. In terms of community of practice theory, the WIL period coincides with legitimate peripheral participation (LPP) phase, and the student-trainee is about to enter the community of the engineering workplace as a novice (see section 2.6).

The study has three main research areas of focus. Firstly, the study focuses on technical knowledge from the engineering courses which will inform the tasks students will perform in classroom and workplace tasks. The next focal point is the communication course which is meant to provide adequate English language structures and genre training to translate the technical language into formats acceptable and suitable for the workplace. The subsequent centre of focus is the workplace, a situated learning environment within which the researcher may discover how the technical expertise, filtered through the language awareness of the communication course, facilitates the student-trainee's interaction with workplace discourse practices. Figure 12 presents these points of focus:

Figure 12: Research focal points



3.3 RESEARCH QUESTIONS

The central question in this research addresses how, in terms genre training, the student is prepared for the discourse of the workplace. This question necessitates an examination of the way genres are taught and engaged with in the classroom. It implies that the researcher should investigate how language is used in the classroom and how genres are taught and practised in the engineering and communication classrooms. Another implication of the central question in the classroom is that one should address the wider phenomenon of the *discourse community*, in Gee's (1996) terms, within which these genres are produced. The next points of focus are the discourse practices of the workplace, which, theoretically, occur within a *community of practice* (Wenger, 1998). This community also provides a theoretical framework for *situated learning* (Lave & Wenger, 1991) which occurs in the workplace. It is within the construct „situated learning“ that this study probes the formulation and production of genres in the workplace. Therefore the transitional character of genres is observed very closely against the background provided by researchers such as Yates & Orlikowski (1992), Artemeva et al. (1999), Kain & Wardle (2005), and Paretto (2008).

3.3.1 RESEARCH QUESTION ONE

The principle research question is operationalized into four research questions. The first question investigates the extent to which the generic communication taught in the communication course prepares students for the contexts within which language is used in the engineering workplace.

How do the generic communication practices taught in the communication course prepare students for the contextualized language operating in the workplace?

This question investigates how the academic language and generic communication practices of the communication course can contribute towards the student's preparation for the specific language practices and terminology of the engineering workplace. Together with the generic communication practices of the communication course, this question also takes into account the technical language that is acquired by these students throughout the course of their studies in the engineering courses. The research items related to this research question (see section 3.5.3.3) are designed to ask how the student is capable of combining the technical language of the engineering course with the attention to format and structure taught in the communication course genres within the context of a group assignment.

In terms of the student-trainee's participation in the workplace, the study asks how the ability to work with technical terminology in classroom group assignments is transformed into the ability to contribute to workplace group tasks which involve technical terminology. Subsequently, through observations (Appendix 4) and interviews (Appendix 5), the study seeks to determine

how this knowledge contributes towards the student-trainee's successful completion of group tasks in the workplace, if at all. This question takes its cue from researchers such as Artemeva et al.'s (1999) claims on collaboration in group assignments in the engineering workplace, particularly their suggestion that students "learn through carefully orchestrated processes of co-participation" (1999:7).

3.3.2 RESEARCH QUESTION TWO

Question two concentrates on the way students are prepared by a generic communication course for oral interaction in a more contextualized setting such as the workplace:

How prepared are student-trainees to interact appropriately with supervisors in the workplace?

The point of departure for this question is that language is able to exert pressure within a discourse community. Therefore the study is interested in the reaction to this pressure on the part of the student or student-trainee, in order to gain insights into his /her ability, or lack thereof, to interact with the discourse community of the classroom on the one hand, and the discourse community of the workplace on the other. In the case of the classroom, the lecturer uses certain words or phrases in order to signal a command which takes the form of an instruction for an assignment. The student is considered capable of interpreting this directive because of a familiarity with the discourse of the classroom. The success which accompanies the student's attempts to fulfil the requirements of the directive is likely to provide an indication of the student's capability to interact with the language of this particular discourse community.

In the workplace the supervisor's directive takes the form of a request with the pragmatic force of a command. For example, a supervisor may ask: "Can you give us a hand with this?" and actually mean: "Do this now, as part of your job". Within this discourse community, the technicians are normally expected to be aware of the linguistic cues in the supervisor's directives, and are subsequently capable of transcending aspects such as the polite form, use of pronouns and embedded imperatives, in order to connect with the message together with the specifications of the task. During the work-integrated learning (WIL) period the student-trainee is also expected to respond to the supervisor's instruction. Therefore, the crucial point of this question is the extent to which the student-trainee's reaction to the directive may be inferred to be based on the linguistic construction of the directive. This can be inferred from two sources: firstly, the preparation for the task will be examined through the participant-observer instrument. Secondly, the student-trainee will be engaged in a discussion in a semi-structured interview. The interview is intended to ask how the lecturer's instructions compare to the workplace supervisor's requests. The researcher anticipates that the similarities and differences which

emerge could provide clues about the student's transition between the discourse of the classroom and the discourse of the workplace. This question is based on an understanding of Morand's (2000) assertion that roles in institutions are defined "specifically through language" (2000:235), as well as Iedema's (2000) claims that directives indicate "action in social institutions" (2000:74), and that institutional genres are presented in "specialized language" (2000:74). In a workplace setting, this has implications for the way the student-trainee comprehends the requirements of the task through the language of the directive.

3.3.3 RESEARCH QUESTION THREE

The third research question focuses on individual written tasks in the classroom and in the workplace. It seeks to investigate, firstly, whether the genre rules that inform their structure are transferred from classroom discourse to workplace discourse and, secondly, the possibility that these rules may become adapted to suit the discourse practices of the workplace:

How are the genre rules learned in the communication course maintained and/or modified when these genres are enacted in individual workplace documents?

The communication course teaches various genres and genre rules which are intended to empower students to perform written tasks within specific contexts in the engineering classroom as well as in the engineering workplace. The student is also expected to adapt these genre rules to workplace contexts. In this research, genres are best understood against the background of the activity systems. According to Kain & Wardle (2005), activity is "mediated by tools" (2005:11), and the document produced in a classroom or workplace system is a mediating tool. These tools are subject to "shared conventions" such as "language conventions" which one should "consider when working with genres" (Wertsch, 1985:12). In this regard, Paretti (2008) cautions that the student should be aware of the rules that apply to documents produced within an activity system, since the goal of the document is to "exchange necessary information amongst subjects" (2008:493), and the information can only be exchanged if the document conforms to criteria which informs the particular genre.

This study intends to investigate the coursework of the communication course in order to determine which genre rules the students are exposed to. Next the researcher will employ the instruments of observation as well as interviews in order to ascertain which of these genre rules, if any, have been maintained in the workplace. Furthermore, the intention is to utilize the same research instruments to discover the extent to which any of these genre rules have been modified.

3.3.4 RESEARCH QUESTION FOUR

Question four focuses on the environment into which the student-trainee is integrated as a member of a community. This involves interaction with supervisors, technicians, and other student-trainees as well as artefacts with which the trainee has to engage in order to perform the functions of the workplace:

Does Wenger's (1998) construct, communities of practice, provide a framework for investigating the language used in the interactions between student-trainee, supervisor and artefact in the engineering workplace?

The question is based on Wenger's (1998) communities of practice theory, which emphasises "learning as social participation" (1998:4). The intention here is to study various aspects of the student-trainee's attempts to become a part of the particular engineering workplace. Therefore observations will include the hardware that she/he is provided with, the available software and its relevance to the tasks at hand, the information in the form of wall charts and other in-house media, the question of space and/or lack thereof, the approachability of colleagues and supervisors, and the accessibility of language used in the workplace. The research also examines the extent to which the student-trainee is able to "operate within a common organizational environment" (Knight & Trowler, 2001:49) from a social perspective. Although language is part of the investigation in this question, it is primarily focused on in relation to the other aspects of the individual's social participation in this community of practice. These aspects include the way the trainee is able to work with peers and supervisors, whether the trainee has a mentor, and the extent to which the trainee interacts in the discourse of the workplace.

This question also sees the integration of the student-trainee in terms of Lave and Wenger's (1991) construct, "legitimate peripheral participation" (LPP) (1991:36-7), with the trainee as the *apprentice* to the supervisor as the *expert*. According to the construct, the apprentice is continuously moving towards the centre of the community in terms of expertise within a specialized environment, with the guidance of the expert. The question will therefore interrogate the relationship between the supervisor and the trainee in terms of task completion in the workplace. It is believed that if the study can gain insights into the characteristics of the student-trainee's interaction with the workplace, these insights may provide suggestions about how the student could best be prepared for the workplace.

3.4 THE RESEARCH DESIGN

Within the framework of qualitative research, a distinction is drawn between the methodology and the methods of the research project as suggested by Cohen et al. (2007:83). Methods generally refer to research instruments such as observations, questionnaires and interviews,

whereas the choice of methodology would be influenced by such considerations as the scope and purpose of the research, as well as the questions which the researcher is investigating. In the case of the present project, the objective is to examine a cross-section of genre use within two specific contexts of classroom and workplace discourse settings in order to find information about the student's transition between these contexts. It was decided that the most suitable way to reach these objectives would be to adopt a design which involves questionnaires, observations and interviews. The intention is that the questionnaire data would be supported by statistical data from the context of the classroom which, in turn, would provide a starting point for the analysis of the questionnaire data from the classroom as well as the observation and interview data workplace contexts. This approach, according to Nunan (1996), is suitable for *social inquiry* from large scale research to research involving only one researcher, and is especially appropriate for research on language-related phenomena. Also, the research intends to focus on genre use in a variety of contexts within a given period. In this regard, Nunan (1996) suggests that the purpose of this type of research:

is generally to obtain a snapshot of conditions, attitudes, and / or events at a single point in time (1996:140).

Furthermore, it is intended to show that the information which emerges about the transition made by students between the classroom and the workplace could be transferable to other South African universities of technology and engineering workplaces. In this regard, Cohen et al. (2007) suggest "generalizing *within* specific groups or communities, situations or circumstances validly and, beyond, to specific *outsider* communities, situations or circumstances" (2007:135).

As part of the research design, the researcher is expected to establish a framework for the population and the sample of the research which should ideally be determined by the hypothesis. In this research, the main hypothesis is that a study of the discourse practices of the engineering workplace activity system may facilitate an understanding of the genre training required in the discourse practices of the activity system constituted by the engineering classroom. Therefore the data will be obtained from students and course materials in the Engineering Faculty, Durban University of Technology (DUT), as well as various enterprises in KwaZulu-Natal which employ engineers and technicians. In this regard, the study of discourse practices is done in three phases: phase 1 involves first year engineering students at DUT in a survey which is supported by statistical data; phase 2 is a document analysis of the communication course materials; and phase 3 is an investigation into the discourse practices of student-trainees in the engineering workplace. The data gathering procedures in the three research phases are: questionnaires in phase one; document analysis of course materials in phase two; and observations and interviews in phase three. As a starting point, the sampling strategies of these three phases are discussed below.

3.4.1 SAMPLING STRATEGY: QUESTIONNAIRE METHOD

In Phase 1, the population comprises all DUT students registered for the 2010 academic year. It was decided that the sample should allow for racial subgroups, according to the university information available to the study. Given the racial groupings that existed in the records of the institution, the study decided to make the sample representative of these groupings. The sample population is defined as the student body of 24,303, a distribution of which is depicted in Figure 13 below:

Figure 13: Population distribution by racial subgroup

	African	Coloured	Indian	White	Other
Number	18606	412	4113	1018	154
% (approx)	76,6	1,7	16,9	4,2	0,6
per 100	76	2	17	5	0

The motivation for defining the sample population as the collective student body rather than only those within the Engineering Faculty was based on a need to make the phase 1 findings more general in terms of linguistic and socio-economic background. It was felt that the findings could be applicable on a wider scale, especially when one takes into account the racial profile of the DUT and other similar institutions. Therefore it was decided to base the composition of the sample on the DUT student population because variety in students' background was seen as a significant factor in dealing with the discourse of the engineering classroom. As a result, the ratio in the sample is 76:2:17:5 (African, Coloured, Indian & White respectively). The term „Other“ is categorized as outside the scope of this research since it refers mainly to foreign students from outside the African continent who would not necessarily form part of the „workplace“ as referred to in the project.

The decision about sample size is crucial in ensuring that the findings can be generalized between the sample and the population. In the present project, the choice is guided by researchers such as Cohen et al. (2007), for instance, who advise that “correct sample size depends on the purpose of the study and the nature of the population under scrutiny” (2007:101). Firstly, the student population is investigated from the perspective of learning as social interaction, which would necessitate a multi-layered probe into their ability to engage with the discourse community represented by the communication course. Therefore the sample should ideally consist of a controllable number of respondents for the researcher to organize. Secondly, from a methodological point of view, the purpose of phase 1 is to gather data which is intended to form part of a framework of categories that can be linked to appropriate categories in the other two phases in order to gain insights into the transfer between classroom discourse and workplace discourse. In this sense the sample should be manageable so that the relationships between the findings of the elicitation tasks in the different phases can be clearly established. Based on these

considerations, a suitable number of respondents in the sample is 100. On the other hand, the researcher should also ensure that the sample allows for various subgroups which may make the sample more meaningful. In this regard, Nunan (1996) provides advice for language research:

A key consideration in determining sample size concerns the subgroups within a population that may need to be separately identified – for example, whether to separate men from women, or whether to separate the responses from members of different ethnic groups (1996:142).

The different subgroups in this research are significant because of the effect that various aspects of their background– such as culture and language – are likely to exert on their interaction with classroom discourse. This accounted for the distribution in Figure 13. This distribution also coincides with Cohen et al.’s (2007) requirement for a quota sample since “it sets out to represent these in the proportions in which they can be found in the wider population” (2007:114). It was decided not to distinguish between male and female students in the sampling process as this distinction is not part of the research design. The equal distribution of the sample in the four engineering disciplines (electrical, industrial, mechanical and electronic) was made possible because of the co-operation of lecturers in these disciplines. Of 100 in the sample, 25 were drawn from each discipline. On the other hand, the required total from each subgroup, as shown in Figure 13, was based on the availability of subjects in each discipline. The distribution of this sample is illustrated in Figure 14.

Figure 14: Distribution of phase 1 sample by discipline and subgroup

African	Coloured	Indian	White	ENGINEERING DISCIPLINE
20	0	3	2	Electrical (25)
23	1	1	0	Industrial (25)
10	1	11	3	Mechanical(25)
23	0	2	0	Electronic (25)
76	2	17	5	100

3.4.2 SAMPLING STRATEGY: INTERVIEW AND OBSERVATION METHODS

In Phase 3 the elicitation techniques are interviews and observations, and the respondents comprise technicians who are either: (1) doing their in-service period as student-trainees during the last semester of their engineering qualification; or (2) working for the company as recently qualified engineering diplomates. The sample is defined as 40 respondents with a similar ratio as in Phase 1 in terms of the 4 engineering disciplines. These are drawn from 10 engineering companies according to the following distribution of respondents: Electrical – 10; Mechanical –

10; Electronic – 10; Industrial – 10. The sampling strategy adopted here is “purposive”, according to Nunan (1996): “Subjects are handpicked by the researcher on the basis of his/her own estimate of their typicality” (1996:142). The requirement of „typicality“ is satisfied in this sample, because the research sets out to link the questions in the interviews and observations to their counterparts in the questionnaires of phase 1. Therefore a conscious effort must be made to select subjects who would be in a position to answer the questions because of their links to the 4 engineering disciplines already identified for this study. On the other hand, the subjects must, of necessity, be familiar with the curriculum and materials under investigation in the Phase 1 and Phase 2 part of the research. Therefore this choice could not be subjected to random sampling. In this regard, Wiersma and Jurs (2009) suggest that this type of sampling should be based on “characteristics relative to the phenomenon under study, rather than being selected randomly” (2009:234). Similarly, Cohen et al. (2007) agree that purposive sampling is necessary when researchers need a sample that is “satisfactory to their specific needs” (2007:115). Apart from the interviews, another elicitation procedure is participant-observations involving the researcher and the technicians. The observations are conducted prior to the interviews, so that the interviews may provide more depth and clarity to similar questions addressed in the observations. One observation is scheduled for each engineering company, but the activity under observation is determined by its relevance to the research questions. The sample under observation may include student-trainees, qualified technicians or supervisors. Decisions about this particular sample is based on the needs of the research, or „judgement sampling“ according to Cohen et al.(2007:115) and Yu et al.(2009:819). Figure 15 presents a checklist for the distribution of the interviews and observations:

Figure 15: Distribution of Phase 3 sample by company & discipline

Companies	Electronic	Industrial	Mechanical	Electrical	OBSERVATIONS
1	4				1
2		4			1
3			4		1
4				4	1
5	4				1
6		4			1
7			4		1
8				4	1
9	2	2			1
10			2	2	1
Total: Interviews / Observations	10	10	10	10	10

3.5 DATA COLLECTION PROCEDURES

The data gathering process is divided into three phases: Phase 1 is directed at first year students and seeks to establish the characteristics of the sample of 100 students by means of questionnaires. These findings are intended to provide insights on baseline proficiencies for the student-trainees in the Phase 3 sample. Phase 2 is an analysis of the course materials in the communication course, which will inform how the findings should be interpreted in Phase 3. Phase 3 is directed at the engineering workplace, and uses the participant-observer method as well as the semi-structured interview instrument in order to determine the nature of the transition made, in terms of genre training, by the student from the classroom to the engineering workplace.

3.5.1 PHASE ONE: QUESTIONNAIRES

The principal reason for using the questionnaire is to accumulate data about language and other proficiencies that the students bring to the university. The findings from the questionnaires are intended to provide a background for the analysis of data from phases 2 and 3. The choice of this particular research instrument was influenced by a need to collect data, some of which could be stored and retrieved in a software package, such as SPSS. The semi-structured questionnaire format seemed suitable in this study since it allows for different kinds of questions. Researchers such as Cohen et al. see the semi-structured format as “a powerful tool” (2007: 321) which provides the freedom of setting questions which could provide information in a statistical form. On the other hand, the study could also benefit from questions which could elicit deep or multi-layered responses.

In terms of secondary objectives, the first is to discover the extent to which the students’ language background provides them with strategies to interact with English and other languages during their time spent at university. The second objective is to establish whether the students in this sample have any prior knowledge of technical language which could influence their understanding of technical information in the engineering course. The third objective of the questionnaire investigates the likelihood that students may have developed their own language strategies such as code-switching, for instance, which could possibly impact strongly on their ability to interact with classroom as well as workplace discourse.

The questionnaire protocol (see Appendix 3) is divided into 4 sections for ease of reference during the “Findings” stage. The first set of questions seeks general information about the sample to compile a student profile. In this regard, the basic choice of question type is between closed or open-ended items. Nunan (1996) sees a closed questionnaire item as “one in which the range of possible responses is determined by the researcher” (1996:143). In this part, the researcher seeks to limit the scope of the responses to those which can easily be subjected to a

statistical software package, therefore it was decided to use closed items. This decision is supported by Cohen et al. (2007): “closed questions are useful in that they can generate frequencies of response amenable to statistical treatment and analysis” (2007:321). According to Cohen et al., the respondents are likely to give the information, since all items here correspond to items on their registration application forms. These items are: age, qualification and level, place of birth and place of matriculation examination. According to McDonough and McDonough (2004), these types of questions “are often used for „moderator“ variables to tap divisions in the population being polled” (2004:174).

The second section of the questionnaire is a mixture of closed and open-ended questions as well as tables. The purpose of the section is to gain insights into the respondent’s range and frequency of language use as a university student. The closed questions deal with basic facts of mother tongue and other familiar languages (2.1 and 2.2). Question 2.2 requests an arrangement in order of proficiency because the study believes that the position of English on the grid may provide information about proficiency that could add to the student profile in this sample. These items are followed by a set of tables (2.3 and 2.4) which attempt to ascertain the frequency and variety of spoken and written English outside the classroom. The study needs this information because it is investigating the probability that exposure to English in settings other than the classroom may impact on the student’s ability to interact with English in the classroom and in the workplace. The respondents are likely to answer these questions since they are located in the social, familiar domain, and are also accompanied by examples to guide their responses. On the other hand, respondents are given the opportunity to rate their responses from 1 to 4. Respondents are also likely to feel more positively about the idea of completing the tables at this stage, coming immediately after a set of closed questions. Questions 2.5 and 2.6 request information about language used in interpersonal relationships. Providing an open space for a response is aimed at inviting unforeseen but welcome information on code-switching and other novel ways of using languages in a friendly context. In this regard, Cohen et al. (2007) claim that this strategy could possibly elicit responses “that might contain the „gems“ of information that otherwise might not be caught in the questionnaire” (2007:330).

The third set of questions in the questionnaire seeks to elicit information about the student’s preparedness for the academic programme. The three questions in this section are all open-ended, since the researcher allows for a wide variety of responses which cannot be directed in one specific direction. It is important for the study to collect data on the students’ prior knowledge of “technical subjects” (3.1), “work experience” (3.2), and current engineering job as these may influence the student profile in terms of technical background.

Section four of the instrument seeks information about the way language is used in the communication course. The first question (4.1) is designed to set the tone for the two questions which follow. With an understanding that English would probably be the main medium of

instruction, it is vital for the study to ascertain the language that is most used in the smaller venues during tutorials. This may have an impact on the student's overall ability to interact with the course material. The next two questions (4.2 and 4.3) are open-ended. The first examines the language use during group assignments, which addresses research question one (see section 3.3.1). This question could provide data on more than one language used, or even code-switching during group assignments. On the other hand, Question 4.3 probes the possibility of barriers such as unknown languages or strange accents and also admits the possibility of other types of non-linguistic barriers.

In the next group of questions, the intention is to allow respondents to vary their responses, but in a directed way which does not allow too many varieties as these could be difficult to analyse. Therefore the rating scale technique (i.e. the Likert scale) is introduced. In the current research, this technique is attached to the open-ended question so that the respondent signals a choice on the Likert scale, and explains that choice in a space provided below the scale. In this way, the respondent's choice on the scale can be recorded on statistical software, while the rich data within the open spaces may be analysed according to categories suggested by the patterns which emerge from the data.

The next set of items is linked to interview items in phase 3 of the research (Appendix 5). These items refer to: language in the engineering course (4.4); language in the communication course (4.5); language used by communication lecturers (4.6); technical language in engineering (4.7); and language of the presentation tasks (4.8). The findings from these items will be compared with items 1.1 to 1.8 of the interview data in order to investigate these aspects of the transition between classroom and workplace. The questionnaire items are expected to elicit the required information because they refer directly to aspects of the students' course.

3.5.2 PHASE TWO: COURSE MATERIALS

During this phase of the research, a document analysis of relevant aspects of the communication course is conducted so that the study may be informed about the genre training and discourse practices that the engineering students are exposed to in the classroom. The motivation for the investigation of classroom language activities is that the student-trainees in the workplace will be observed against the background of their preparation in the classroom. The analysis will involve relevant course materials from the English & Communication course in the Department of Media, Language & Communication. An outline of this course is presented as Appendix 6 (Annual Learner Guide 2010). These materials are used as points of reference for the findings from the written tasks of the engineering students under investigation. These findings, in turn, form the basis of a comparison between classroom and workplace discourse from which

conclusions about the transition between classroom discourse and workplace discourse are drawn.

The Phase Two part of this study is guided by Cohen et al.'s (2007) method of *content analysis* which they describe as “a strict and systematic set of procedures for the rigorous analysis, examination and verification of the contents of written data” (2007:475). The current document analysis is informed by the programme evaluation suggested by Nunan (1996) in his evaluation of language programmes. In terms of the overall design of the study, the document analysis focuses on those aspects of the communication course which relate to research question one (group tasks) and research question three (genre rules).

In order to conduct the evaluation, two of the “key curriculum areas” of Nunan's (1996) evaluation scheme are adapted to suit the needs of the current research. Nunan's (1996:192) scheme includes the following considerations: 1) Appropriateness of objective; 2) Appropriateness of content; 3) Appropriateness of placement; 4) Effectiveness of instruction; and 5) Efficiency of instruction. The adapted curriculum areas are included in the following table:

Figure 16: Scheme of curriculum areas

NUMBER	LANGUAGE CURRICULUM AREAS
1	Appropriate and pragmatic outcomes related to workplace practices
2	Suitable programme content to promote genre training

Adapted from: Nunan (1996:192)

The first area to be evaluated refers to the objectives of the course in terms of their appropriateness for the language needs of the students. Furthermore, the researcher needs to discover whether the instructions have the potential of preparing the student for the language practices in the workplace. In this regard, Artemeva et al. (1999) recognize the need to:

facilitate the acquisition of rhetorical skills and strategies necessary for students to successfully integrate into their engineering school environment and to facilitate their transition to the workplace (1999:301).

Similarly, Kain & Wardle (2005) are concerned with providing “instruction that assists students in transferring communication skills from academic contexts to professional contexts” (2005:115). Two of the *Specific Learning Outcomes* provided in the Learner Guide of the Communication Course (Appendix 6, Item 5) are directly linked to the way language is used in the workplace, and are also related to this study's research questions: (1) technical language in group assignments; and (3) genre rules in the communication course. The outcomes are:

Figure 17: Communication outcomes

Specific Learning Outcomes	
1.	Learners are able to work effectively in groups so as to complete career-related tasks effectively, using:
1.1.	Group task functions
1.2.	Group maintenance functions
1.3.	Group leadership functions
2.	Learners are able to engage in work-related communication genres in the following communication modes:
2.1.	Written (e.g. letters, memoranda)
2.2.	Spoken (e.g. talks, meetings)
2.3.	Graphic (e.g. graphic materials supporting reports or oral presentations).

Extracted from: English and Communication Learner Guide (2010:2)

Specific learning materials, as well as the language used in these materials, are investigated in order to ascertain whether these materials can possibly lead to *career-related tasks* as mentioned in the first outcome above. The second outcome, which refers to genres such as presentations, memoranda and reports based on engineering course materials are also investigated with a view to facilitating and understanding the way genre rules, as articulated in research question three, are established in the language of the genre training presented by the communication course.

In terms of curriculum area two of the language curriculum areas, this study is concerned with the likelihood that the communication course may or may not provide adequate genre training in the content (using the appropriate linguistic structures) and form of work-related documents. This genre training is intended to prepare students so that they become capable of producing specific documents in specific workplace settings. In this regard, Yates & Orlikowski (1992) present examples of various genres in order to caution that:

If the business letter is a genre of organizational communication, what about the recommendation letter? Similarly, if the meeting is a genre, what about the personnel committee meeting? In each case, the variants derived from the more general type differ primarily by being more specific in subject and form (1992:305).

Paretti's (2008) findings are in support of specific genre training as preparation for particular workplace exercises. To this end, she puts forward a wide range of genres in a projected engineering communication course which includes the production of: a "project notebook", a "series of formal reports" accompanied by two "oral presentations", and a "poster summarizing the project" (2008:496). By contrast, the communication course under review offers the following as part of genre training: letter writing, memorandum, report writing, meeting

procedure (one document each). Against the background of this information, it is intended to evaluate a sample of this genre training in order to determine the extent to which the document exercises in the latter course provide suitable training for genre practices in the workplace.

3.5.3 PHASE THREE: OBSERVATIONS AND INTERVIEWS

Phase one of this study is located in the classroom, and employs the questionnaire as a data gathering instrument; phase two is positioned in the communication course, and involves an evaluation of course materials. In phase three the focus of the research shifts to the workplace, where the researcher uses observations and interviews in order to investigate the discourse practices of the workplace as well as the student-trainee's interaction with these practices. For instance, the student's use of genres in the workplace are placed under the spotlight so that these types of data may be compared with the data from the classroom in order to draw inferences about the student's transition, in terms of language use, from the classroom to the workplace. This research proposes that insights about the student's transition are likely to provide a basis for adapting learning materials so that future students are better prepared for the engineering workplace. In this regard, Tennant et al. (2010) have found, for instance, that "The workplace is thus increasingly present as a learning resource and a site of learning in the university sector" (2010:112). In order to achieve the objective of gaining insights into discourse and genre practices in the workplace, it was decided to employ the observation and interview as research instruments in a two-pronged approach. Firstly, the observation technique could make it possible to gather information about interactions between student-trainees, technicians, and supervisors in the workplace while they engage in an activity as a group. This provides the opportunity, for instance, to view the internal "genre repertoires" (Kain & Wardle, 2005:125) of the workplace. Secondly, the interviews are designed to gather information about the individual's engagement in the workplace, and interviews can possibly provide in-depth information about the phenomenon monitored by means of the group observations. As suggested by Kvale (1996: 88), the interview procedure is guided by predetermined questions in the interview schedule.

3.5.3.1 OBSERVATIONS

One of the key reasons for using observation as an instrument in this study is that it allows the researcher to build a perception of the discourse practices as they occur when members of a community participate within the framework of the engineering workplace. In this regard, Wiersma and Jurs (2009) suggest that:

An important part of observation relates to the idea of contextualization; that is, to understand behaviour, the observer must understand the context in which individuals are thinking and reacting (2009:284).

This relates to the notion of the two activity systems studied in this research: the system of the workplace and the system of the classroom. It is essential that the researcher sees the discourse practices of both in context in order to draw informed inferences about them. Furthermore, this instrument makes it possible for us to obtain “authentic data” from Cohen et al.’s (2007) viewpoint, since “what people do may differ from what they say they do, and observation provides a reality check” (2007:396).

In this study it is essential to find the type of observation technique which can probe the discourse practices of the workplace from a social perspective. This choice is facilitated by researchers such as Thomas (2009), for instance, who distinguishes between structured observation and unstructured observation. His view is that in structured observation, “the social world is viewable through a prism that enables the breakdown of social activity into quantifiable elements” (2009:183). On the other hand, unstructured observation, according to Thomas (2009), “is undertaken when you are immersing yourself in a social situation, usually as some kind of participant, in order to understand what is going on there” (2009:186). At this point the researcher would favour the latter option, since this investigation views language from a primarily social perspective. However, other researchers, such as Cohen et al. (2007), position structured observation and unstructured observation on extreme ends of a continuum where a structured observation “will know in advance what it is looking for” in finding data in support of a theoretical position, while an unstructured observation would “go into a situation and observe what is taking place before deciding on its significance for the research” (2007:397). A further option, semi-structured observation, which lies between the two other categories of observation, is more suitable for a study of the dynamic interplay between student-trainee and other participants in workplace discourse. This category allows the researcher to determine the basic line of observation concerns while allowing space for other data from the workplace. In this regard, Cohen et al. (2007) suggest that:

A semi-structured observation will have an agenda of issues but will gather data to illuminate these issues in a far less predetermined or systematic manner (2007:397).

The option chosen in this research, therefore, is semi-structured observation (Appendix 4) in which the researcher may create a basic structure for the observation, based on the research questions, while still allowing for new findings from the participation within the workplace discourse community. According to Thomas (2009), this kind of observation may also be termed *participant observation* (2009:186). Cohen et al. (2007) distinguish between various levels of participation in this instrument: the *complete participant* “takes an inside role in the group being studied”; the *participant-as-observer* becomes integrated into the community being studied; the *observer-as-participant* is slightly more detached from the community; and the *complete observer* observes without the knowledge of the community (Cohen et al. (2007:404). The most rewarding position for the researcher in the present study would be that of observer-as-

participant since it allows one to get close to the discourse practices of the workplace while maintaining enough distance to link the immediate findings to the research questions for the duration of the period of observation.

The observations are done on a multi-site basis: ten engineering companies with four student-trainees each, with each site visit being one to two days in duration. According to Wiersma and Jurs (2009), this is the type of arrangement where certain studies “retain a common focus for the research, but they typically require several or many sites rather than just two or three” (2009:242). Also, small group studies may be suitable for this type of observation. In this regard, Cohen et al (2007) recommend that: “Participant observation may be particularly useful in studying small groups, or for events and processes that last only a short time” (2007:404). The observation items, together with the interview items, are discussed in section 3.5.3.3.

3.5.3.2 INTERVIEWS

This study has a two-fold rationale for using interviews. Firstly, this data elicitation technique allows one to investigate pre-determined aspects of the research questions while making it possible to probe for nuances in the individual responses which may provide deeper insights about the student-trainee’s discourse practices in the workplace. Cohen et al. (2007) support this usefulness of the instrument in their assertion that:

The order of the interview may be controlled while still giving space for spontaneity, and the interviewer can press not only for complete answers but also for responses about complex and deep issues (2007:349).

Secondly, interviews can be used alongside observations so that patterns emerging from the group observations can possibly be validated in the individual interview sessions. In this regard, McDonough and McDonough (2004) indicate that interviews can be used: “as the primary research tool, or alternatively in an ancillary role, perhaps as a checking mechanism to triangulate data gathered from other sources” (2004:181). Similarly, Cohen et al. (2007) recommend that the instrument “may be used to follow up unexpected results” or “go deeper into the motivations of respondents” (2007:351). This study requires the flexibility provided by this tool, since the various dimensions of the student-trainee’s interaction with workplace discourse involving other student-trainees, technicians, and supervisors should be taken into account.

The flexibility required in the data gathering procedure also determines one’s choice of the type of interview used in the study. In this regard, McDonough and McDonough (2004), for instance, mention three basic types of interview: structured, unstructured, and semi-structured. They caution that these types should be seen as part of a continuum, and that there may be a degree of

overlap between them. Therefore these types are put forward as: “a spectrum, not hard-and fast self-contained categories, from formal and controlled at one end to more open and less predictable at the other” (2004:182). The structured interview format is very rigid in its approach, and typically uses questions which are “tightly specified in advance”, which would be suited to “relatively large populations by asking the same questions in the same order” (2004:182). On the other hand, although the responses are easy to decode, according to Thomas (2009), the significant point for this study is that “you don’t have an opportunity to follow up these signals with further questions if you limit yourself to the format of a structured interview” (2009:162). Unlike structured interviews, unstructured interviews exercise only limited control over the interviewee’s responses since the interviewer provides only the basic ideas to be discussed because, as indicated by Thomas (2009), the motivation is that “interviewees should be allowed to set the agenda” (2009:163). The value of the unstructured interview format is that it allows for several dimensions of qualitative data which would be welcome in this project. However, there is at least one reservation to this: it would be difficult to categorize the data for alignment with the information from the observations in this study. This leads to the choice of the semi-structured interview format for this research. By using this format, one is able to combine the most suitable elements of the other two options. Firstly, determining the questions beforehand provides one with the opportunity to explore more detailed issues based on the four research questions of this study. Secondly, the semi-structured interview allows the researcher to interrogate the responses of interviewees. In this regard, McDonough and McDonough (2004) point out that, in semi-structured interviews, the researcher “remains in control of the direction of the interview but with much more leeway” (2004:184). Thomas (2009) has a similar perspective: “Your interview schedule, drawn up prior to the interview, is a framework of issues, leading to possible questions, leading to possible follow-up questions, leading to „probes”” (2009:164).

Apart from making the most suitable choice in terms of type of interview, this study takes cognizance of the social dimension in the interview process. Researchers such as Cohen et al. (2007:350), and Wiersma and Jurs (2009:222) have found that the interview should not only be seen as a data gathering exercise, but as a “social encounter” which dictates that the behaviour of the interviewer should encourage interviewees to participate fully. According to Cohen et al. (2007), the interview should not only be seen as “a site for information exchange” (2007:350), but as a space within which two people are able to make contact with each other. Some researchers, such as Wiersma and Jurs (2009) and Thomas (2009) refer to this arrangement as “rapport”. Wiersma and Jurs (2009) advise that: “it is important that the interviewer establish a good rapport with the respondent” (2009:222); while Thomas (2009) calls to mind that: “establishing rapport is not simply a mechanical process to be gone through; it is a process of actually making contact” (2009:161). This could lead to a spontaneous exchange which, in Kvale’s (1996) sense, provides the study with data that is rich as well as specific and relevant to the research question driving it (1996: 145).

3.5.3.3 OBSERVATION AND INTERVIEW ITEMS

The individual interviews are conducted subsequent to the group observations during site visits at each designated engineering workplace in the research design. The protocols for both instruments contain questions arranged according to the four research questions in such a way that each set of items in the observation protocol corresponds with a similar set of items in the interviews. This correspondence between the observation and interview items is illustrated, for instance, in section 4.4.1 of the Chapter Four: Findings and Analysis (Research Question One). The link between the two instruments can also be viewed in Appendix 4 (Observation) and Appendix 5 (Interview). This arrangement is aimed at triangulation of the data obtained from these two research instruments. A basic use of the term „triangulation“ in social research, according to Thomas (2009) is: “viewing from several viewpoints is better than viewing from one” (2009:111). Thomas (2009) also mentions a distinction between „investigator triangulation“, which involves more than one researcher; „theory triangulation“, which draws on multiple theories in a study; and „methodological triangulation“, an approach “where more than one method would be used to collect data” (2009:111). The current study employs the latter form of triangulation which is intended to validate the data from the observations and interviews. In this regard, Wiersma and Jurs (2009) view triangulation as “a part of data collection that cuts across two or more techniques or sources”, referring to it as “qualitative cross-validation” (2009:287). The first set of items in the observation schedule (Appendix 4) coincides with the first set in the interview schedule (Appendix 5), aimed at obtaining information in response to research question one:

How do the generic communication practices taught in the communication course prepare students for the contextualized language operating in the workplace?

The main thrust of this question is to focus on the extent to which the generic language learned in the classroom has prepared students to perform tasks in the context of the workplace.

Question 1.1 provides a basis for this procedure, focusing on language use in the observation: “Which languages are used by members of the task group?” On the other hand, Question 1.1 and 1.2 of the interview address a similar concern in the individual interview: “Did you understand everyone in the task group?” and “How do you normally ask for clarity about a group task?” This provides the opportunity for the interviewer to check the findings of the observation, while also allowing the researcher to determine, in the follow-up questions, whether language (for example, English, isiZulu, isiXhosa, French, Afrikaans) played a role in the participation of the student-trainees, or whether other factors influenced their interaction in the task viewed during the observation process. The rest of the questions in this set follow the same pattern. Questions 1.2 to 1.6 of the observation investigate technical language as an integral feature of workplace discourse, addressing the role of technical language in determining the direction of the task. The follow-up questions in the interview (1.3 to 1.5) are designed to add more clarity about the use of

technical language. Items 1.7 to 1.9 of the observation focus on discourse practices in the task group, while group discourse practices of the two activity systems of classroom and workplace are addressed in items 1.6 to 1.8 of the individual interview.

The second set of items is designed to elicit reactions to research question two:

How prepared are student-trainees to interact appropriately with supervisors in the workplace?

This question is intended to investigate how the linguistic structure of the supervisor's instruction determines the way the student-trainee performs a task, and to compare this with the way the student responds to the lecturer's instructions. The first part of the observation is concerned with the preparation for the task, and interrogates the way the task is initiated, whether by email, face-to-face meeting or other means (2.1); the actual words or phrases used (2.2); and the negotiations involved, if any (2.3). Item 2.4 investigates the consultations around the task. Items 2.1 to 2.4 of the interview deal with the individual's response to the supervisor's message. Item 2.1 asks how the message is received; item 2.2 questions the actual words of the message; item 2.3 investigates the student-trainee's understanding of the message; and item 2.4 examines the specific terminology used. In order to ascertain which information was available to the individual questions are asked about technical language and consultations with peers and supervisors in items 2.5 and 2.6. Furthermore the researcher took the decision to investigate more aspects of instructions and requests in 2.7 to 2.9. Item 2.7 seeks a comparison between the lecturer and supervisor; and items 2.8 and 2.9 focuses on transfer between the communication course and workplace tasks.

The third section of the observation and interview schedules explore research question three:

How are the genre rules learned in the communication course maintained and/or modified in the language used when these genres are enacted within the context of individual workplace documents?

This question examines the documents produced in the workplace in order to determine which aspects of genre training in the classroom influenced the preparation of these documents, and how workplace practices influenced the student-trainee's ability to produce documents. The following workplace discourse practices are examined as part of the observation procedure: actual documents in the workplace (3.1); official company templates (3.2); document writing rules of the workplace (3.3); software for document preparation (3.4); the incorporation of graphic material (3.5); and the editing of documents in the workplace. The first part of the interview explores the individual's genre practices in the workplace. These include: genre training (3.1); genres in the workplace (3.2); and genre rules (3.3). The next part deals directly with transfer from classroom to workplace. These items are: genre rules learnt in the

communication course (3.4); genre rules learnt in engineering (3.5); communication course used in the workplace (3.6); and genre rules adapted for the workplace (3.7). Workplace practices are explored further in item 3.8, which investigates the genre rules peculiar to the workplace. Item 3.9 focuses on the use of emails and item 3.10 is a request to view actual emails.

The fourth set of items focus on research question four:

Does Wenger's (1998) construct, communities of practice, provide a framework for investigating the language used in the interactions between student-trainee, supervisor and artifacts in the engineering workplace?

This question examines the context within which the student-trainee interacts with the discourse practices of the community of practice constituted by the engineering workplace. This includes colleagues, management and all other aspects such as computers and office space which comprise the workplace. In order to gain insights into the student-trainee's ability to interact in this community of practice, this study explores those aspects, discourse practices included. Therefore, as part of the observation, the researcher takes into account the dominant language spoken in the workplace (4.1) and (4.2) as well as the language of the work environment (4.3) visible on wall charts and signs. The researcher also views aspects such as materials which promote the student trainee's presentations (4.4); artifacts which promote the company's products (4.5); and all other aspects of the workplace which contribute to the student-trainee's understanding of the company's messages (4.6). During the interviews the researcher ascertains whether the student-trainee can communicate freely with colleagues and supervisors (4.1) and the role that different languages play in this context (4.2). It is also essential to discover whether the company provides sufficient information to employees about its products (4.3) as this may contribute towards creating a specific context in the workplace. The researcher is also interested in support for the student-trainee in the form of computer training (4.4) as well as any other forms of assistance geared towards successful task completion (4.5) and (4.6). Furthermore, this study aims to gain a holistic picture of the workplace context in order to gain insights about genre and discourse practices.

3.6 RESEARCH ETHICS

Each of the questionnaires administered in this study was accompanied by an *Informed Consent Form*. The same applied to the observations and interviews. A further caution, adhered to in this investigation, is "to protect the participants of the research through rules of confidentiality and consent to particular uses of the data" (McDonough & McDonough, 2004:54). For this purpose, the consent form explicitly requests the respondents' consent, as well as explaining that they may withdraw at any time. They are also informed that they may refuse to answer any question and are assured of the confidentiality of their responses. The respondents are also asked to confirm

that their material may be used as part of the research under conditions of anonymity. They attach their signatures to this. Lastly, the respondents are provided relevant information about the researcher, the research and the research instrument.

This Chapter has presented an outline of the research design and approach in this study, as well as the methods used in order to respond to the four research questions. Chapter Four will discuss the findings and analysis emerging from the investigation.

CHAPTER FOUR

FINDINGS AND ANALYSIS

4.1. INTRODUCTION

The objective in this study is to investigate classroom discourse in the communication course at Durban University of Technology (DUT) as well as workplace discourse in engineering companies in order to establish the nature of the transition which students make between these contexts. The main purpose of this chapter is to analyze the findings which emerge from the data collection procedures in the research. These include questionnaires administered in the classroom as the first phase of the study; a document analysis of the relevant communication course content in phase two of the research; and workplace observations and interviews which comprise the third phase of the study. The findings from the questionnaires include a student profile followed by discussions about the questionnaire items on classroom discourse. The document analysis in phase two addresses those outcomes and contents of the communication course which promote the transition from classroom discourse to workplace discourse. The findings from the observations and interviews conducted in engineering companies will inform discussions on workplace discourse as well as genre practices within the workplace context.

Analyzing the data:

Phase one

The data from the questionnaire survey are analyzed in the following ways: Firstly, the data from the closed questions are subjected to statistical software and subsequently presented as graphs which form the basis of the analysis. Secondly, the survey consists of questionnaire items which contain a combination of closed and open-ended questions. The data from the closed questions are presented as graphs or tables which form the basis for the analysis of the findings from the open-ended questions. Thirdly, this instrument also contains questions which combine options on a Likert scale with space for further probes designed to expand on the scale options. The data from the scale options are presented as tables which guide the analysis of the qualitative data from the probes.

Phase two

Selected aspects of the communication course content are explored in order to determine the extent to which the course contributes towards the preparation of students for the classroom and workplace. The findings of the investigation are analyzed according to two criteria adapted from Nunan's (1996) language programme evaluation. The two criteria are *outcomes related to workplace practices* and *content promoting genre training*. In order to ascertain the contribution of the communication course, its content is measured against two categories in each criterion.

These are: group tasks and work-related genres in outcomes related to workplace practices; and oral presentations and report writing in content promoting genre training.

Phase three

The findings from the observations and the interviews are presented simultaneously. The objective is to triangulate the findings so that the interview findings can substantiate the findings from the observations. The interview findings also provide expanded, multi-dimensional answers to questions posed in the observations. Since the research is qualitative, all the data has to be reduced to manageable categories and sub-categories in the analysis process. The findings are presented in tabular form in order to demonstrate the themes and patterns which emerge from them. The themes and patterns emerging from each item are analyzed according to the criteria which arise from the research questions.

The three sets of findings are triangulated in terms of the commonalities by means of which they support the themes identified during the analysis process. The themes relate to technical language, requests and directives, genre adaptation, and communities of practice. These themes are cross-referenced in the text in each phase and subsequently aligned to the research questions so that the central research question in terms of the transition between classroom discourse and workplace discourse is addressed.

4.2 PHASE ONE: QUESTIONNAIRES

Questionnaires were used to elicit data from the classroom context in terms of the following: student profile; language in the classroom; technical language in group assignments; communication lecturers; and written documents.

4.2.1. STUDENT PROFILE

The student profile is derived from a set of questions at the start of the questionnaire (see Appendix 3). The statistical data are presented in the form of graphs, and are intended as points of reference for the rest of the phase one discussions. The following aspects were selected from the findings because they provide information for an overall student profile: (i) engineering disciplines in the sample; (ii) home language; (iii) additional languages spoken by respondents; (iv) language in interpersonal relationships; and (v) technical background.

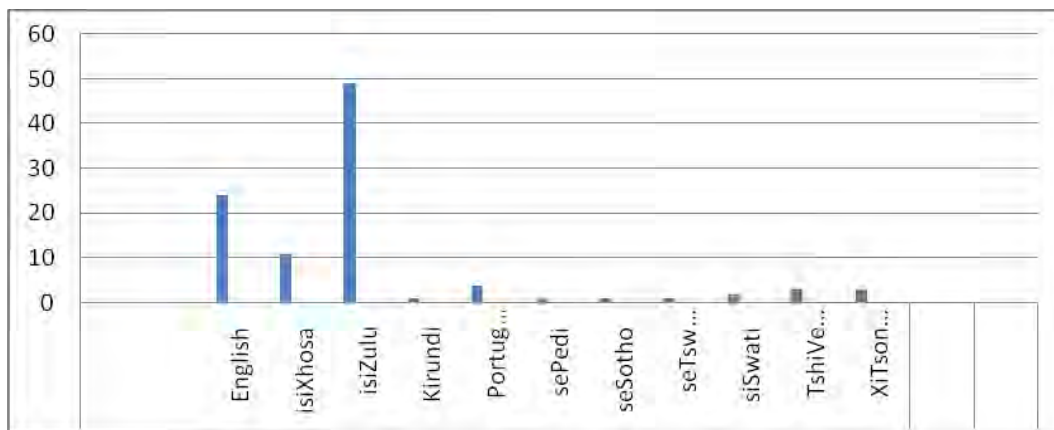
(i) Engineering disciplines in the sample

The sample was initially intended to reflect an equal representation of the four engineering disciplines from which students registered for the communication course. These disciplines were: electrical, industrial, mechanical, and electronic engineering. Each of the disciplines has 25 respondents of the 100 respondents in the questionnaire phase. The study requires the composition of the classroom sample to be consistent with that of the workplace (25% each). In the workplace, the observations and interviews involved 40 student-trainees, with each of the 4 engineering disciplines represented by 10 respondents (also 25% each). This arrangement is intended to ensure that the findings are applicable across the disciplines of the engineering faculty.

(ii) Language background

The first language of each of the 100 respondents is illustrated below. This data is included because language diversity may influence discourse practices during classroom group tasks.

Figure 18: First language distribution



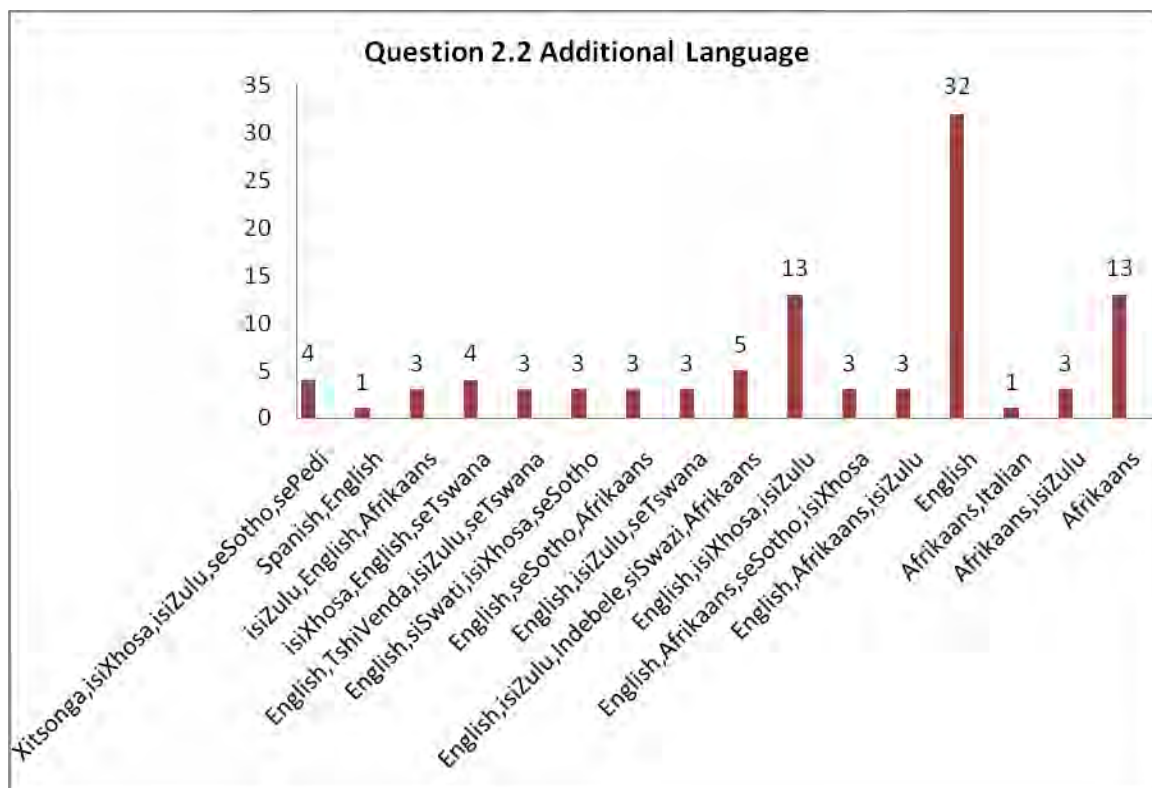
According to the graph, isiZulu is spoken by nearly 50% of the respondents, followed by English and isiXhosa. The high number of isiZulu speakers in the sample is linked to the prevalence of isiZulu speakers in Kwa-Zulu-Natal province, in which the DUT is located. The isiXhosa speakers, at just over 10%, represent the second largest indigenous language spoken in the province. The respondents who list their mother tongue as English (24%) are mainly from the Indian, White and Coloured groups of the university population. Other languages such as sePedi and seSotho, for instance, represent smaller groupings in the population. Portuguese (mainly spoken by students from neighbouring Angola) is mentioned as a mother tongue by at least 4%

of the sample, and features in the data presented throughout this chapter. In the data presented in this chapter, the utterances of respondents are identified according to their mother tongue in order to show the extent to which mother tongue impacts on their discourse practices, if at all.

(iii) Additional languages

The information presented below depicts languages other than home languages spoken by questionnaire respondents. The graph demonstrates the variety of languages which they have in their repertoire, which includes English, the language of instruction at the DUT.

Figure 19: Additional languages



The information gathered by the questionnaires reflects the multilingualism of the DUT students in the sample. In the 17 categories of language diversity shown on the graph, 15 (88%) indicated two or more additional languages, while 12 (71%) of the total in the sample showed three or more additional languages. Of the combinations presented, 8 categories (47%) indicated isiZulu as an additional language, while an overwhelming 12 (71%) showed English as another language. On the other hand, 5 categories (29%) mentioned isiXhosa as an additional language. In the context

of this study, the data is favourable in terms of the students' ability to communicate with each other, particularly in a group task situation. Furthermore, of those who did not have more than one additional language, English was indicated as the other language (32%) while Afrikaans was the single additional language of only 13% of the sample. A possible interpretation of the graph is that the majority of respondents would understand the language of instruction at the DUT, while English, isiZulu or isiXhosa would be the dominant language in group discussions. These findings have relevance for the way workplace group discussions are conducted in 4.4.1 (i).

(iv) Language in interpersonal relationships

This aspect of the student profile was included in order to determine how students in the sample use language in everyday interaction. This information could provide an indication of the student's willingness to participate with other students from various language backgrounds during group tasks. The tables below present the findings in terms of language interaction (Question 2.5) and mixing (Question 2.6).

Figure 20: Languages outside the classroom

Question 2.5

Which language do you speak to your best friends?

LANGUAGE	NUMBER OF RESPONDENTS (%)
English	52 %
IsiZulu	38 %
IsiXhosa	6 %
Unclear	4 %

Question 2.6

Do you mix languages while talking to your friends? If so, please explain how the mixing works.

LANGUAGE	THOSE WHO MIX LANGUAGES	THOSE WHO DON'T MIX LANGUAGES
English	63 %	37 %
IsiZulu	82 %	18 %
IsiXhosa	83 %	17 %
Unclear	No response	No response

The first table reveals that the majority of respondents (52%) indicate English as a language used during interpersonal interaction, followed by isiZulu (38%), and, to a lesser degree, isiXhosa. Students are likely to converse in isiZulu as the dominant indigenous language in the province of KwaZulu-Natal, and English as the language of instruction at DUT. In terms of mixing, isiZulu and isiXhosa are the languages linked to this practice by the majority of respondents. On the other hand, those who speak English on an interpersonal basis are less likely to mix languages: only 63% compared to those who speak isiZulu (82%) and isiXhosa (83%). Overall, those respondents who do not mix languages say that they would rather only speak their own languages. One example of this tendency is expressed as: “I stick to my home language”. On the other hand, the general motivation among respondents who mix languages is that it facilitates communication. A typical example of this trend is: “Mixing helps to relay the message better”. In terms of languages used during mixing, the findings reveal that English and isiZulu (the two main languages at DUT) are used together in friendly conversation by 58% of respondents in the sample. This might be seen as an indication that students are prepared to engage with their peers from various language backgrounds. In terms of languages used in group tasks in Phase Three of the study, this aspect contributes to one’s understanding of the student-trainees’ interactions during workplace group tasks analyzed in section 4.4.1 (i).

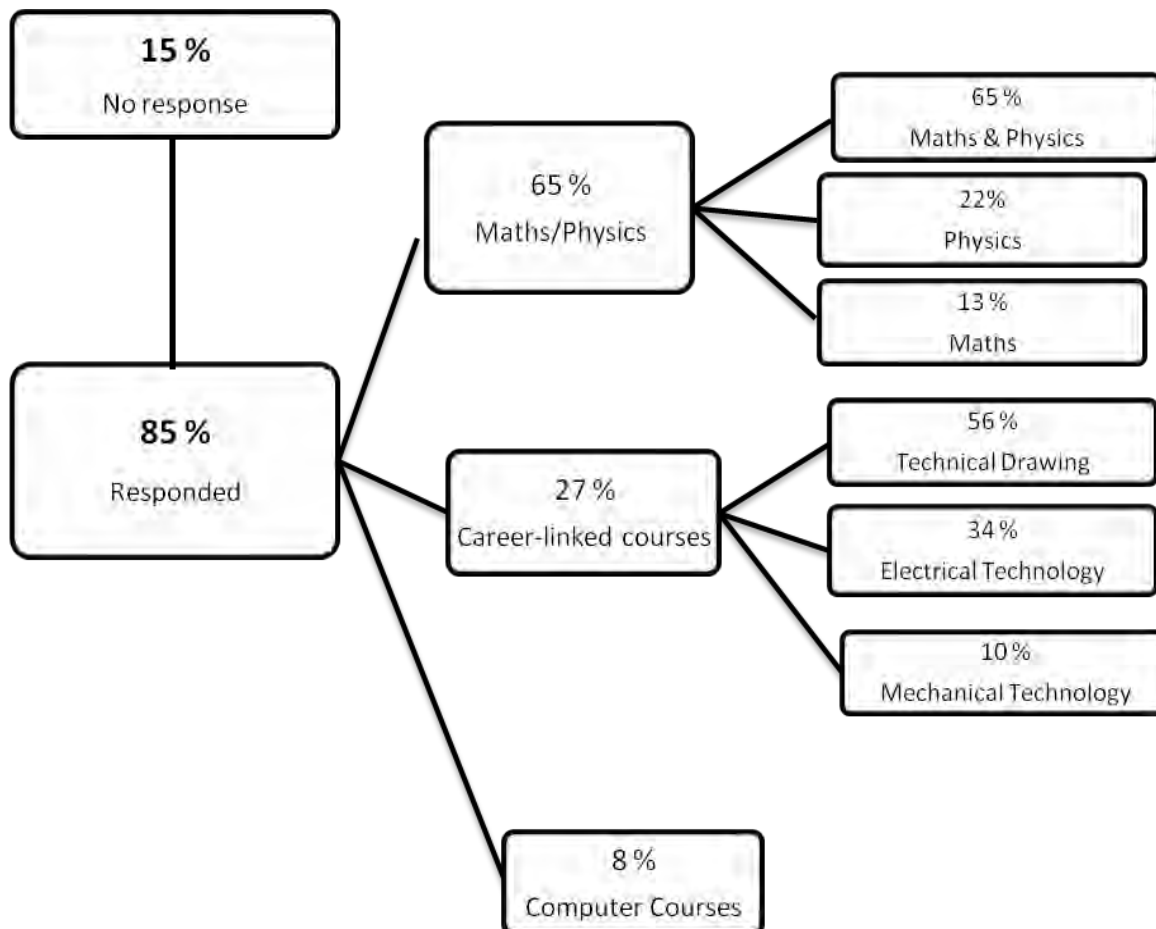
(v) Technical background

Items 3.1, 3.2, and 3.3 were initially intended to provide information on the students’ background which may have prepared them for the engineering course as well as the technical terminology used in the communication course. Item 3.1 focused on technical subjects or short courses at school; item 3.2 sought information on work experience while at school; and item 3.3 investigated part-time work linked to the engineering discipline. According to the findings for item 3.2, 81% of the respondents reported that they had had no previous work experience, while the findings for item 3.3 revealed that 94% of the respondents had no part-time jobs linked to their engineering course. However, item 3.1 elicited positive responses which could link school subjects with engineering course materials. Figure 21 provides these responses to item 3.1.

Figure 21: Preparation for technical terminology

Question 3.1.

Describe any technical subjects or short courses at school which may have prepared you for your course in Engineering.



Of the respondents (85%) who provided answers, 27% reported that they had done courses linked to their career or chosen discipline, while the majority (65%) mentioned either Mathematics or Physics in their school curriculum, and only 8% indicated a computer course as part of their preparation. Therefore those whose courses directly prepared them to work with various types of software in an engineering environment were in the minority. On the other hand, the respondents who claimed that they had done Mathematics or Physics had the required background, although they did not receive direct preparation for engineering. Furthermore, just over a quarter of the respondents actually did courses such as technical drawing and electrical

technology which prepared them for technical terminology in specific engineering disciplines. In terms of the student profile, therefore, the findings show that the majority of the students in the sample would not necessarily have had prior experience of technical terminology in the communication course. These findings contribute towards the analysis of tasks involving technical language, such as section 4.2.3.

4.2.2. LANGUAGE IN THE CLASSROOM

After having completed the observation and interview phase and analyzed the findings, the researcher realized that only a selected number of questionnaire items relating to the student profile and classroom discourse practices could be analyzed in terms of the research questions and triangulated with data from the observations and interview. The items not analyzed were: 1.2-1.6, 2.3-2.4, and 4.1-4.2, 4.4 & 4.8.

Therefore the next questionnaire item to be discussed is 4.3. This item was designed to investigate language use in the classroom from the student's point of view because classroom discourse, together with workplace discourse, is a key concern of this research. Therefore the discussions will take into account the different languages that students have at their disposal (see section 4.2.1), as well as other factors which may impact on discourse within the framework of the classroom. In this regard, item 4.3 asks whether the respondents understand each other. The respondents are allowed to provide reasons in a space provided on the questionnaire, so that the researcher can analyze the expanded answer. The question is:

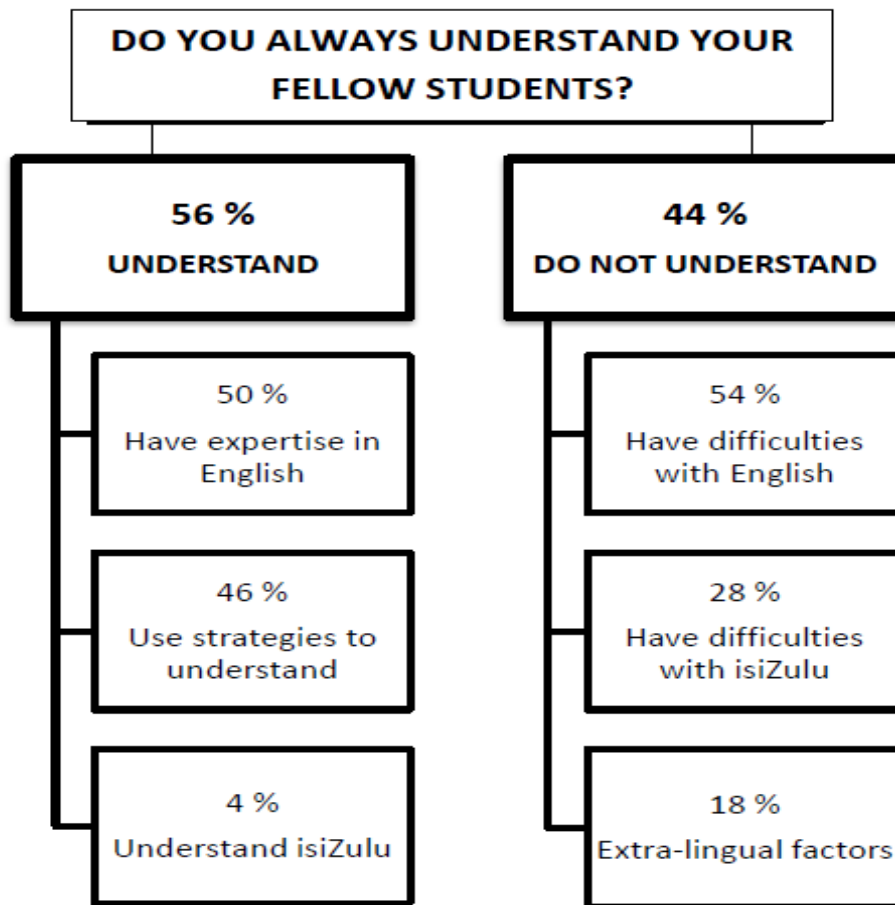
Do you always understand your fellow students?

Yes/No

Please say why you think so.

The categories which emerge from the data in item 4.3 are provided in Figure 22.

Figure 22: Understanding fellow students



The findings reveal that 56% of respondents stated that they understood other students, while 44% said no. Of those who felt that they did not understand their fellow students, 28% mentioned difficulties with isiZulu, while 54% said that they had difficulties with English, and 18% mentioned extra-linguistic factors such as disagreements during group activities. One of the respondents who referred to problems with isiZulu, for instance, said: “I don’t understand some of the Zulu words because they speak deep Zulu” This response was from an English-speaking student.

In the discussions which follow in this phase, the mother tongue of a student whose utterance is provided as a typical response is indicated in brackets, such as, for instance: “... they speak deep Zulu” (English). It is likely that this information may have relevance in the context of the study, particularly in the way language background could impact on the student’s interaction in the classroom and workplace.

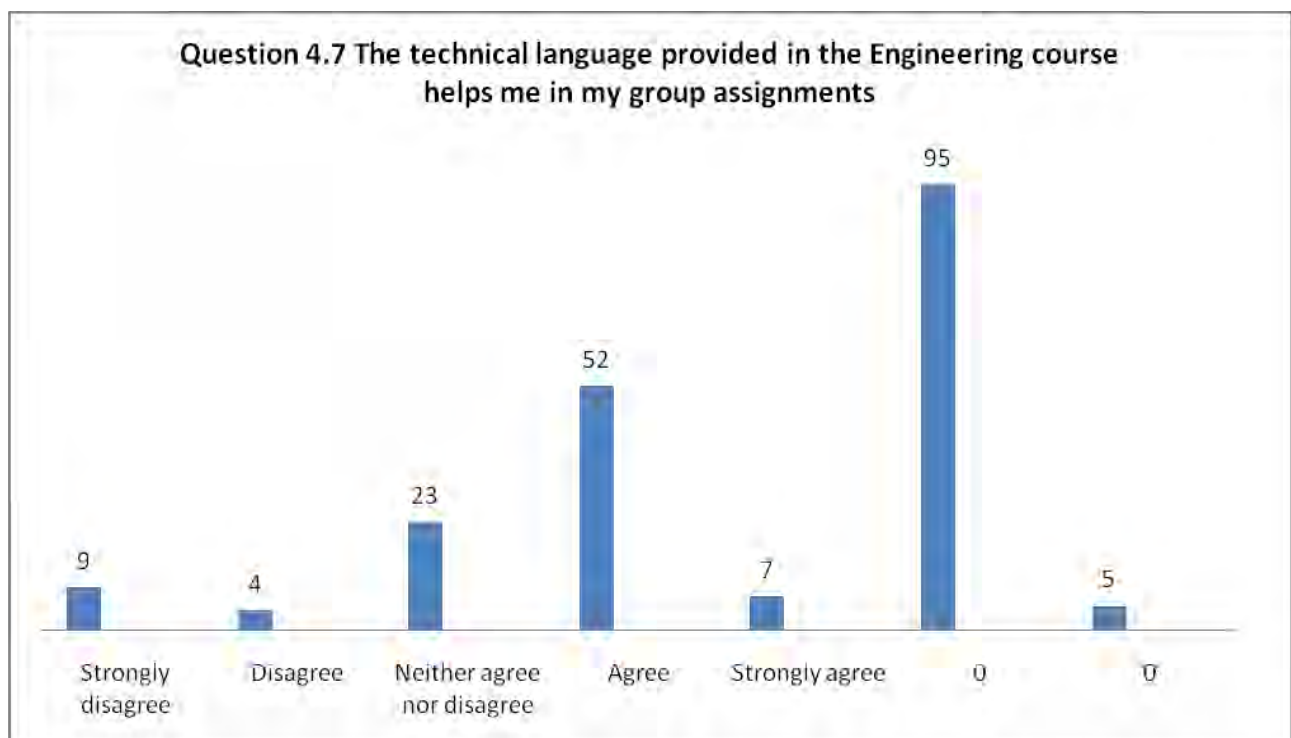
By contrast to the respondents who based their reasons on isiZulu, those who have problems with English do not ascribe these to the language per se, but to factors such as regional accents, pronunciation, and pace of delivery. The following responses represent these concerns: “They pronounce words differently from the way we do” (isiZulu); and “They talk very fast” (isiXhosa). In terms of the student’s ability to interact in this discourse community, most students adopt strategies, as shown in the next paragraph, which enable them to establish rapport with other students whose regional dialects may be problematic at first.

Of the students (56% of the sample) who declared that they understood their fellow students, very few (4%) said that they understood isiZulu while 50% referred to their expertise in English, and 46% mentioned their use of strategies to understand their fellow students. The respondents who claimed that they understood English emphasized the status of English as the common language of classroom discourse, particularly in responses such as: “We always communicate in English” (isiZulu). On the other hand, those respondents who indicated various strategies by means of which they interacted with their peers are best described by the following individual responses: “I listen carefully to what they say” (English); and “I pose questions” (isiZulu). The inference drawn here is that these students are willing to engage other students socially in order to „understand“ them so that they can work together towards the common goals of the classroom such as assignments. This scenario is consistent with the role of the individual in Gee’s definition of discourse: he sees that individual “as a member of a socially meaningful group” (1996:131). In terms of classroom discourse, the findings have shown that, in spite of having isiZulu-speakers in the majority at the institution (almost 50%), only 12% of the sample reported problems English. Furthermore, even though English is the language of instruction, 24% of the sample mentioned problems, mostly based on regional dialects. However, students are prepared to use strategies to overcome these problems, as 26% of the respondents have indicated. The relevance of this questionnaire item for the research is that it describes the classroom discourse practices of the respondents in this sample, and provides a background for addressing the issues which emerge from the other questionnaire data. These findings also contribute towards the research because they demonstrate how individuals from different language backgrounds can work together towards a common goal in the classroom. In this regard, Gee (1996) defines discourse as “interaction with people with whom one is either not „intimate“, with whom one cannot assume lots of shared knowledge and experience” (1996: 143). This discourse feature is linked to a similar situation in the workplace where student-trainees from different language backgrounds work together on group tasks. These workplace group tasks are explored in section 4.4.1, particularly in subsections (i) (iii) and (iv). This addresses research question one, which investigates how group tasks in classroom assignments contribute towards the group tasks of the workplace.

4.2.3. TECHNICAL LANGUAGE IN GROUP ASSIGNMENTS

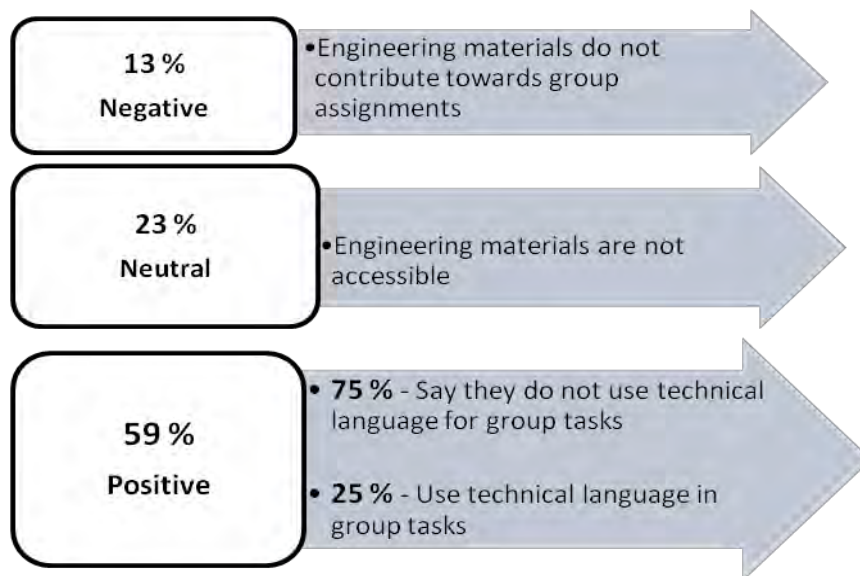
Like the previous section, this section of the questionnaire (4.7) also addresses the concerns of question one of the study. However, while that section focuses on classroom group tasks, this section specifically explores how technical language is used in these tasks. The data are plotted on a graph according to the Likert scale which provides the following values: positive („agree“ and „strongly agree“); neutral („neither agree nor disagree“); and negative („disagree“ and „strongly disagree“). The values on the right-hand side indicate the number of respondents (100), which, in this example, is 95 plus 5, where 5 protocols could not be read because the writing was indecipherable, or the item was left blank.

Figure 23: Engineering terms in group assignments



The findings reveal that 13% of respondents chose the two negative options, 23% chose the neutral option, while 59% indicated the two positive options. The categories emerging from the findings are shown in the diagram below.

Figure 24: Technical language for group assignments



In terms of the negative responses, respondents explained that they did not believe the terminology provided in the engineering course materials contributed towards success in group assignments. For instance, a typical reason provided was: “The language in the course is totally different from the one they require you to use during group assignments” (isiZulu). In terms of the neutral responses (23% of the total), the reasons given by the respondents suggested that they did not believe the terminology provided in the engineering course materials was always accessible. This view is represented by the following response: “I still don’t understand certain technical terms” (isiZulu). By contrast, the majority of those who took positive options (59% of the total) provided diverse, if positive reasons. For instance, only 25% said that they used technical knowledge in group tasks, which is represented by the following reason: “We use the terminology in discussing problems (in the group)” (English). On the other hand, the remaining 75% of respondents in this category suggested that they used technical language for other purposes, and did not mention group tasks at all. A typical example of this trend is reflected in the following reason: “It helps me read and understand my work” (Xitsonga).

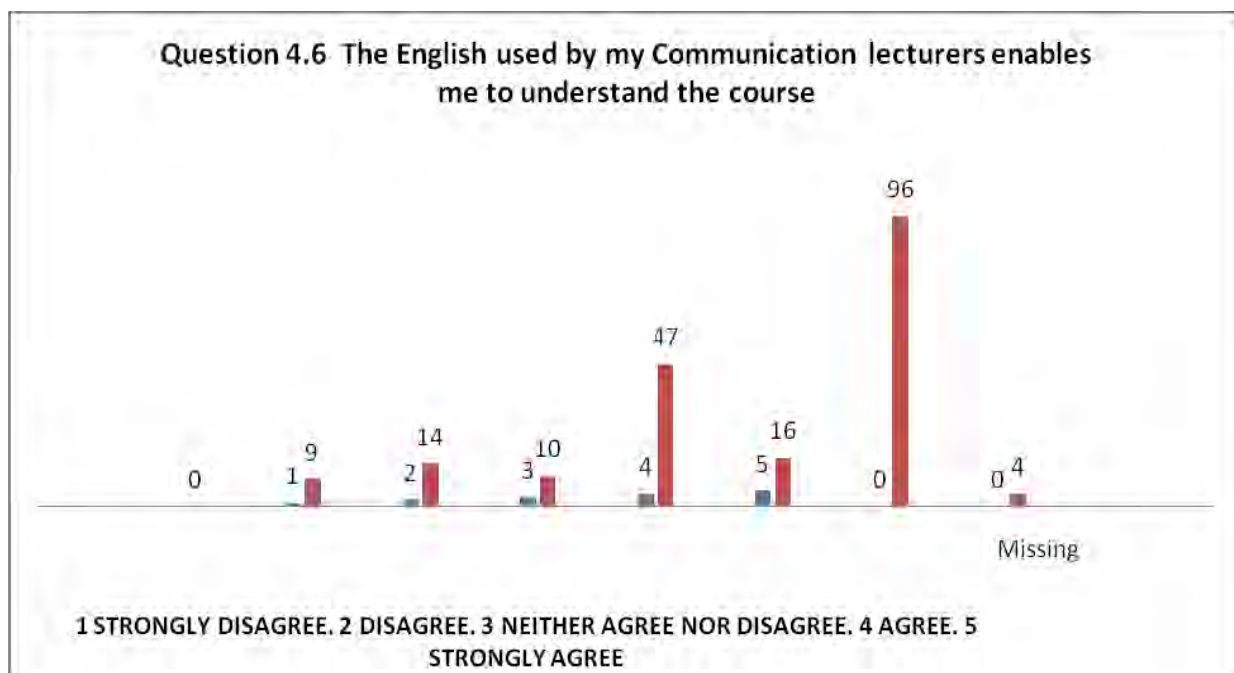
One of the conclusions drawn from the findings is that respondents did not generally believe that the technical language taught in the engineering course contributed to their ability to use this terminology in group assignments designed by the communication course. This includes respondents who chose the neutral as well as negative options. However, the position taken by those who chose positive options is particularly significant in terms of research question one of the study, which investigates the use of technical language in group discussions. In this regard,

an overwhelming 75% of positive responses, representing 41% of all responses to this question, indicated no link between technical language and group discussions in the classroom. The inference drawn is that, although students may have generally understood technical language as taught in the engineering course materials, they may not have realized that they were using this knowledge to contribute to the group discussions. On the other hand, these students may view their technical language training in the engineering course as isolated from their interaction with the communication course. The impact of these classroom findings on workplace observations and interviews is explored in section 4.4.1, (ii) technical language, and (iv) discussions on the task. The objective behind the probe in these sections is to evaluate the extent to which the technical language training of the classroom is transferred to technical language used in workplace group tasks.

4.2.4. COMMUNICATION LECTURERS

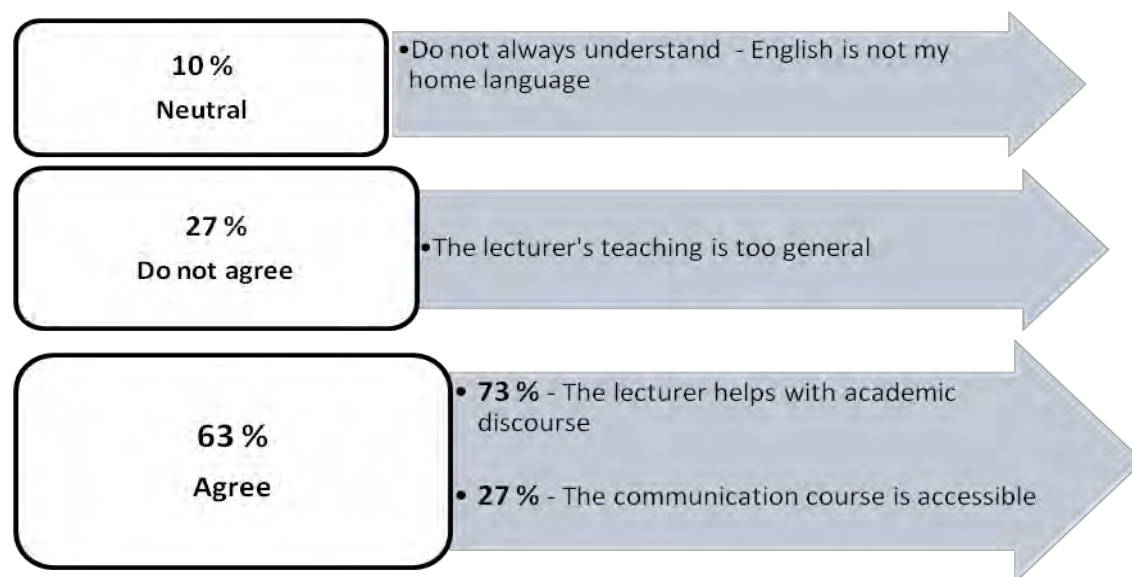
This questionnaire item (4.6) addresses research question two of the study, which explores how the student's responses to the lecturer's instructions correlate with the student-trainee's responses to the workplace supervisor's requests. Since the questionnaire is conducted in the classroom phase of the study, it focuses on the student's response to the communication course lecturer. The findings of this item are expressed on a bar graph presented below.

Figure 25: Lecturer's expertise



Two aspects of the questionnaire item need to be taken into account in this section. Firstly, the communication course is currently taught during the first academic year, and secondly, the students in the sample have diverse language backgrounds. Therefore the use of English in the communication course requires an understanding of academic literacy on the part of the lecturer. In this regard, Lea & Street (2006) have shown that: “literacy practices of academic disciplines can be viewed as varied social practices associated with different communities” (2006:368). In this regard, the lecturer’s treatment of the „different communities“ is manifested in the course materials and the language of instruction. According to the findings, 63% of respondents agreed that the lecturer facilitated their understanding of course materials. However, 23% disagreed, while 10% took a neutral stance. The patterns which emerge from the findings are provided in the diagram below.

Figure 26: Understanding the communication course



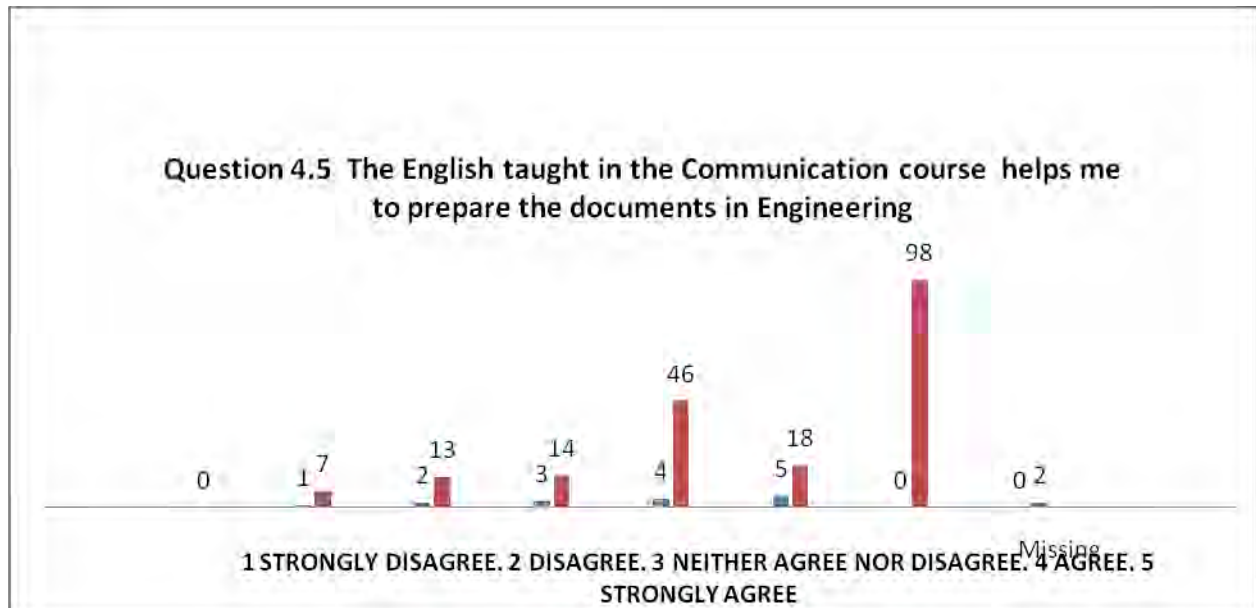
Those respondents who chose the neutral option claimed that they could not provide a positive answer as English was not their first language. On the other hand, the respondents who were in agreement with the statement provided various reasons: 73% based their reasons on the lecturer while 27% focused on the communication course. Those who mentioned the lecturer claimed that her/his use of English supported their efforts to learn English for academic discourse. An example of the reasons given is: “They (the lecturers) have helped me to raise my standard of education in English” (siSwati). On the other hand, the respondents who mentioned the course felt that the English of the communication course was accessible. One of these respondents said: “The course uses standard English” (sePedi). By contrast, those respondents who took a negative stand on the lecturer’s practices (23%) claimed that the lecturer’s teaching was not specific

enough to boost their expertise in communication. These respondents gave reasons such as the following: “(They) don’t teach anything that makes us understand the course, they just teach general things” (isiZulu). This trend calls attention to the generic underpinning of the communication course, which may impact on the way students view the communication lecturer. But if one focuses on what 63% of students in the sample are actually saying about the lecturer’s discourse practices, one may conclude that, overall, the lecturer enables students to understand the communication course. In turn, this also points to the lecturer’s understanding of academic literacy as one of the focus points of the communication course. The function of language in the relationship between lecturer and student is explored further in section 4.4.2, which also investigates the rapport between supervisor and student-trainee in the workplace (research question two).

4.2.5. WRITTEN DOCUMENTS

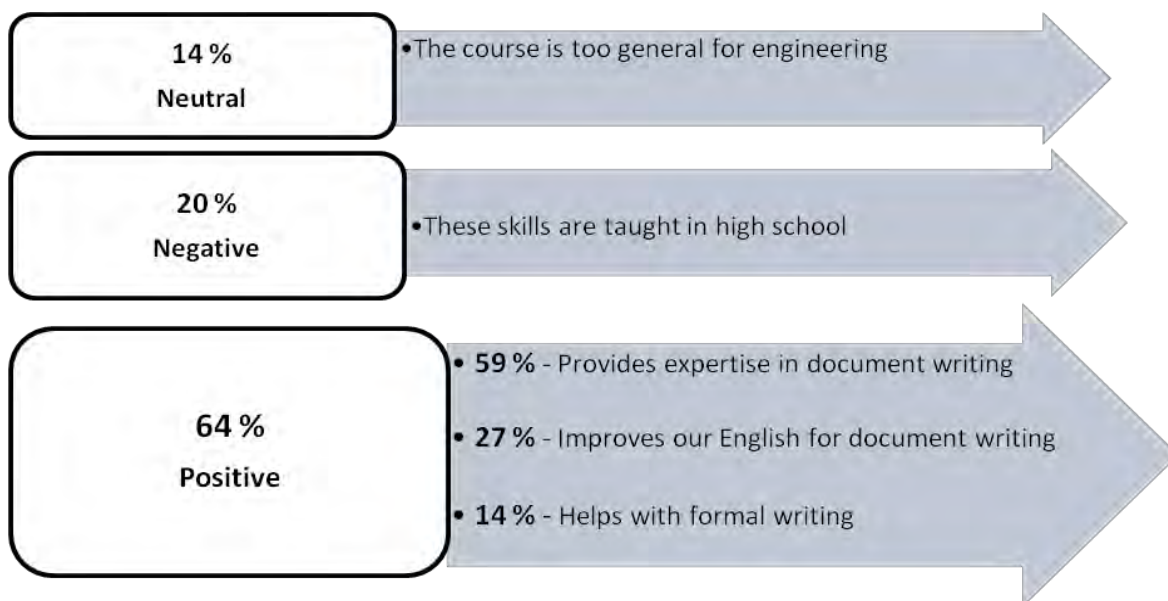
Item 4.5 of the questionnaire explores document writing taught by the communication course as a feature of classroom discourse practices. The relevant communication course materials are presented in section 3.5.3. The rationale behind the inclusion of this item in the questionnaire is twofold: firstly, since the communication course is central to the study, it was decided to probe engineering students’ attitudes to the course; secondly, because genres feature very strongly in the research, it would be useful to gauge students’ viewpoints of the significance of the rules attached to document production. Questionnaire item 4.5 also addresses the classroom phase of research question three, which investigates how genre rules of the classroom are maintained and/or modified in the workplace. Document training in communication is shown as a bar graph in Figure 27.

Figure 27: Communication course: document training



The findings show that 64% of respondents agree with the questionnaire statement while 20% are negative and 14% are neutral. The patterns emerging from the findings are depicted in the table below.

Figure 28: Preparation for document production



Of the positive responses, a significant 59% believed that the communication course addressed their needs to gain expertise in document writing. This belief is represented in the following example: “There are things like „reports” that make it easy for us to compile documents in engineering” (isiXhosa). This category of responses is linked to genre training as an objective of the communication course for both classroom and workplace contexts. In this regard, researchers such as Kain& Wardle (2005) have found that:

An underlying objective for many professional communication courses is to familiarize students with the communication practices, including uses of genres, both in their academic disciplines and in their future workplaces (2005:113).

Another feature of the respondents who agreed with the questionnaire statement is that 27% of them indicate positive experiences with the quality of English taught in the communication course. In this regard, typical responses are: “It helps empower students who might have had a poor English background” (isiXhosa), and “I was from a rural area, so it helped me a lot” (isiZulu). However, certain negative reactions were expressed in the majority of respondents who chose the neutral option. These respondents recorded the following typical comments in this category: “I already understand” (isiZulu) and “We covered those aspects in school subjects” (English). This trend continues in most of the negative responses, as shown in the following example: “We already know almost everything from high school” (isiXhosa).

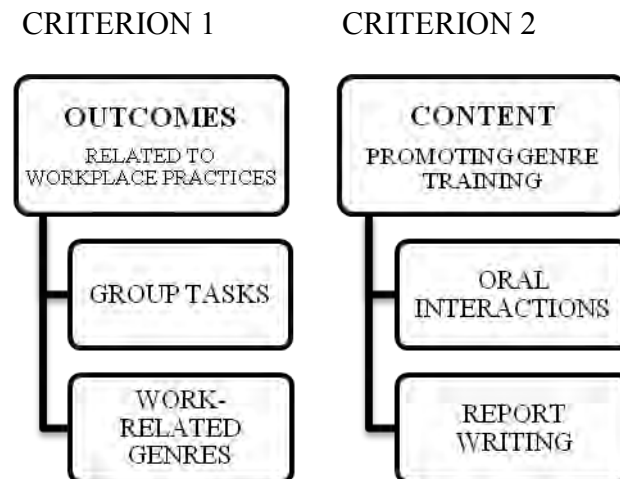
The category containing negative assessments about the communication course is balanced by the positive themes which prevail throughout this section, especially those responses which reflect positively on genre teaching, which represent the overwhelming majority of the responses. One may conclude from these findings that, although some students felt that the communication course did not teach them to prepare documents, these were a clear minority. The general perception is that the communication course prepares students to write documents. Information from these findings will inform the analysis of the observation and interview data from the investigation of workplace discourse practices in section 4.4. The main aim, however, is to use information from this section in addressing research question three of this investigation(section 4.4.3) which focuses on the transfer of genre rules.

4.3. PHASE TWO: COMMUNICATION COURSE: CONTENT ANALYSIS

Selected aspects of the communication course content are analyzed in order to provide a link between classroom discourse in phase one and workplace discourse in phase three of the study. In this regard, the focus is on the following features of the course: classroom and workplace group tasks and work-related communication genres, which, in turn, are connected to research questions one and three respectively. The analysis of these two aspects will be conducted according to the curriculum areas adapted from Nunan’s Language Programme Evaluation

(1996: 192). Each of the curriculum areas forms a criterion for the analysis. The criteria are listed below.

Figure 29: Criteria for course analysis



In this system, criterion one, outcomes related to workplace practices, is chosen because course outcomes reflect the rationale for doing the course, and should therefore serve as a guide to students. This is important for the study because the outcomes may inform a student's mindset in relation to genre practices. The second criterion, content promoting genre training, is an essential measure of the way the substance and structure of genre are expressed, which could also provide an opportunity to gauge the extent to which the social aspects of genre are addressed.

The first criterion will be applied to group work and communication genres. In terms of group work, the analysis will focus specifically on the course objectives for small group activities. On the other hand, the analysis of genres will concentrate on the aims for oral interactions and written reports. In terms of the second criterion, the analysis will concentrate on: (1) oral presentations in course notes; and (2) written reports in course notes and lecturers' notes.

4.3.1. OUTCOMES RELATED TO WORKPLACE PRACTICES

The outcomes for criterion 1 (workplace practices) are discussed in terms of group tasks and work-related genres.

4.3.1.1. GROUP TASKS

In its learner guide (Appendix 6), the communication course provides the following outcome for group work teaching: “Learners are able to work effectively in groups so as to complete career-related tasks effectively”. A simplified version of the outcome is given as:

This means you need to be able to work with others in a group: get the job done, keep the other members happy, and show leadership skills where needed (Communication Programme Learner Guide, 2010:2).

It is argued that students are likely to respond to the more easily accessible language of the version of the outcome. In this scenario, one also has to allow for the possibility that the „career-related“ dimension of group exercises in the classroom may not be fully understood by all students. But, according to criterion one, the outcome should be related to workplace practice. Another aspect of group activity in the workplace is the ability of members to collaborate (in relation to „participate“ from a community of practice perspective) with one another towards the successful completion of a task. This is not mentioned as part of the outcomes while „leadership“ is fore-grounded. It has been found that collaboration defines group work in the workplace. In respect of the criterion by which this outcome is evaluated, researchers such as Kain& Wardle (2005), for instance, advise that:

The communication practices of workplace professionals occur in contexts that are more dynamic, more collaborative than the contexts of classrooms where objectives and activities are primarily scripted by instructors and enacted by students in response (2005:113).

Perhaps the overt reference to workplace practices and collaboration could have been mentioned as part of the outcome for group work in the communication course. In this way, learners may see a direct link between classroom activities and workplace practices. Furthermore, as the outcomes of the course are normally revealed right at the start, these dimensions of group work may have become part of the language that students use in reference to this activity. This practice may, in turn, positively influence the way they prepare for group work in the workplace. These considerations are intended to inform the analysis of the data relating to research question one (group work) in the workplace observations and interviews in section 4.4.1.

4.3.1.2. WORK-RELATED GENRES

The first criterion is also used to analyze the outcomes of the following genres in the communication course: oral presentation and report writing. The specific learning outcome for oral presentation is: “Learners are able to engage in work-related communication genres in spoken mode”. The simplified version, apparently for student consumption, reads: “You need to be able to discuss work-related issues in meetings, and to present a formal talk”. In terms of

providing the student with the appropriate motivation in this genre, it seems that the signposts in the latter statement are linked to actual workplace practices. Firstly, the oral presentation is preceded by discussions, which in the workplace would probably be conducted between colleagues and/or the supervisor, according to findings from workplace observations in this study. Similarly, respondents in some of the engineering companies investigated have also reported on the use of meetings to clarify the direction of projects prior to their presentations to management. Secondly, and more importantly, the two aspects just mentioned jointly inject a social dimension into this outcome which is linked to the Bakhtinian view of genre as “social” (Bakhtin, 1986:79). Therefore, since group tasks presented in the communication course focus on the social dimension of the genre, this outcome is related to workplace practices.

The second genre to be analyzed in the communication course list of outcomes is report writing. The official outcome is: “Learners are able to engage in work-related communication genres in written mode”. Students are provided with a simplified version which reads: “You need to be able to write professional-looking memos, letters and reports”. Similar to the argument made in connection with group work outcomes (see 4.3.1.1) above, it is felt that the notion of the report writing genre as typified by „professional-looking“ documents may eclipse other important aspects of the genre which mediate the activities in an activity system. In terms of the outward appearance of the document, there are universally accepted rules governing the professional structure of documents in various genres. Here one is reminded of Yates and Orlikowski’s (1992) recommendation pertaining to the „form“ of a professional document which should adhere to acceptable norms in its “physical and linguistic” structure (1992:5). This view is supported by other writers such as Firth and Lawrence (2003), who acknowledge the importance of “the observable physical and linguistic features” (2003:3) of documents in different genres. However, these researchers are equally concerned about the “social motives” (Yates & Orlikowski, 1992:5) which inform the outward appearance of a professional document. These refer to the interactions that give rise to the production of the document as well as the activities which respond to the directives stemming from the document. Therefore, in terms of the first criterion, the lack of emphasis on the socially determined motives in the course outcomes may influence genre training in the communication course. This means that the outcome is not sufficiently related to workplace practices, and this may impact on the way genres are enacted in the workplace.

4.3.2. CONTENT PROMOTING GENRE TRAINING

In the analysis of those aspects of the communication course content which impact on classroom and workplace preparation in this study, this section investigates two genres, oral presentation and report writing, in order to determine the extent to which the course content promotes genre training.

4.3.2.1. ORAL PRESENTATION

In terms of the substance and form of genre (Yates & Orlikowski, 1992), the first consideration about genre training in the course relates to the structure of the oral presentation. This part of the training is manifested in the introduction, body and conclusion of the oral presentation. Firstly, the introduction is taught in the following terms:

The introduction sets the scene for your presentation. You should use the introduction to explain what your presentation will be about, indicate why or how your information will be useful (Communication Course Notes 2010:86).

Secondly, the body should contain most of the content of the presentation, and normally provides facts and figures alluded to in the introduction. Thirdly, the conclusion should summarize the important points, while also containing a strong closing statement. This training is augmented by presentation aids such as power point and other audio visual apparatus. Based on these characteristics of the course, one may conclude that, at least in terms of structure, the course provides adequate evidence of promoting genre training in oral presentations. In this way, the course seems to be addressing the concerns of researchers such as Williams (2002), who argue that:

engineers find that they spend more of their time performing nontechnical tasks. Significant among these is communication, whether in the form of written design reports or oral presentations to clients (2002:89).

Furthermore, the genre training in presentation structure is complemented by an evaluation scheme which relates to workplace practices, especially in the assessment criterion: “When you present in class, your lecturer will look at how well you have researched a topic and how well you have organized your message” (Communication Course Notes 2010:86). However, the findings reveal that the course content does not address two vital aspects of oral presentation: work-related topics and improvisation. In this regard, researchers such as Paretti (2008), for instance, have found that: “Assignment requirements can appear arbitrary and confusing if instructors do not explicitly connect those requirements to the real information needs of those involved” (2008:500). Although one has to agree that the course under investigation is non discipline-specific, it should at least link the course content to engineering topics while teaching engineering students. Instead the course offers the following topics, according to one of the communication lecturers who teaches electronic engineering students: “My future plans; My feelings on abortion; and The best day of my life” among others. These types of topics militate against the „real information needs” (Paretti, 2008) of engineering students whose classroom discourse practices should have a connection to the workplace discourse practices that they are being prepared for. Although the questionnaire findings have shown that students felt the

communication course served their needs (see section 4.2.5), it could be argued that they were focusing on academic tasks, rather than their preparation for workplace tasks.

The other aspect of training not evident in the course content is improvisation which, according to workplace observations, is a cornerstone of the student-trainee's ability to communicate successfully with management. The ability to improvise is related to the capacity to manipulate language and information during the presentation of task findings. This, according to Kain and Wardle (2005), for instance, can be facilitated as part of genre training. These researchers claim that the individual's active engagement in the context of the classroom can lead to similar strategies being applied in the workplace context:

Although specific workplace contexts cannot be replicated in classrooms, and therefore the genres written in these contexts cannot be taught with specificity, people making the transition from student to worker can replicate strategies for actively engaging environments that are new to them (2005:122).

The application of the second criterion (content promoting genre training) to genre training in oral presentation reveals, therefore, that the form of this genre is adequately facilitated while the substance of the genre, at least in work-related topics and improvisation, could possibly be revisited.

4.3.2.2. REPORT WRITING

The second criterion of analysis is also used to determine the extent to which the content of the report writing module in the communication course promotes genre training. The position taken here is that genres such as reports are structured for a particular purpose and is applicable in a particular workplace context. This view is supported by researchers such as Cheng (2008):

Genres are often defined as structured communicative events engaged in by specific discourse communities whose members share broad communicative purposes (2008:51).

In terms of structure, the communication course provides the following sections: 1. Terms of Reference, 2. Procedures, 3. Findings, 4. Conclusions, and 5. Recommendations. Each of these is explained in the course notes. For example, In the *Findings* section, students are informed that "the actual information gathered by the methods outlined in section 2 is outlined" (Course Notes 2010:39). It must be pointed out here that for every section, the student is led through a meticulous guide for each step of the report structure. A similar level of detail applies to the substance of the report. For example, the report is defined as:

an extended piece of expository writing in which specialist information which has been thoroughly researched is communicated very quickly yet precisely to the intended reader (Course Notes 2010:37).

This definition gives direction to the genre, establishing a purpose for the student which is also expressed by Kain and Wardle (2005) in their concern about our „goals“ in “introducing students to genres of professional communication” (2005:115). This goal-directed approach to genre training also emerges from the lecturer’s instruction to the student. She advises the student to use three different types of data collection procedures for the data required in the report. These are: observations, interviews, and questionnaires. Furthermore, she provides several sources of information such as local companies, the internet, as well as staff and senior students on campus.

Evidence to suggest that genre training was promoted in the course material was also found in the students’ assignments. For example, lecturers were seen to include adherence to the prescribed format in their evaluation schedules. They also ensured through their comments that the appropriate information was located within the correct section of the report. Information gathering techniques, on the other hand, also empowered students to learn the genre since they were able to find useful data for the *Findings* section. In this regard, it was observed in one of the engineering disciplines that the majority chose questionnaires and interviews to search for information. Practices like these would enable students to use strategies in the classroom that are similar those of the workplace. In this sense, the communication classroom facilitates course work which can promote genre training. However, this study has a concern about the transfer of these strategies between the classroom and the workplace. This concern is based on the findings of researchers such as Kain and Wardle (2005), particularly in their view of non discipline-specific communication courses:

For instructors in multi-major professional communication courses, the problem of transfer is exacerbated because the students in each classroom are preparing for divergent contexts, audiences and genres related to their disciplines and future workplaces (2005:119).

Examples of these „divergent contexts“ were found in the topics provided in genre training tasks. For instance, the electronic engineering students were required to write the report on the following: “Report on investigation into career opportunities in the field of electronic engineering” (See Appendices 7, 7.1, 7.2, 7.3). Here it must be said that, although the course content offers several opportunities to link classroom discourse to workplace practices, the topic of the classroom report writing exercise is not a realistic one in terms of what is expected in the workplace. Firstly, investigations into workplace discourse practices in this study have revealed that workplace reports are specific to a certain department or section of the company and are defined by a particular task. Workplace genres, including reports, are explored in section 4.4.3. (ii). Secondly, it is not likely that the student-trainee or technician will be instructed to write

about career opportunities or the engineering discipline, since these themes are not useful to the workplace manager. A similar argument could be made for the oral presentation course (see 4.3.2.1). The inference that can be drawn from the above is that, even though the course has the elements in its outcomes as well as its content to promote genre training, the overall direction of its design possibly needs to be reviewed in terms of transfer between classroom discourse and workplace discourse. The findings from this phase of the research (Phase two), as well as those of Phase one (classroom discourse) are taken into account in the analysis of the next phase: workplace discourse. Also, the findings in respect of genre training in this section will inform discussions around research question three: How are genre rules of the classroom maintained and/or modified in the workplace?

4.4. PHASE THREE: WORKPLACE DISCOURSE PRACTICES

The investigation into workplace practices was done by means of observations and interviews at engineering companies in KwaZulu-Natal. The aim of this phase of the study was to compare the findings from the workplace with those of classroom discourse in phase one as well as those from the analysis of communication course materials in phase two in order to establish the extent of transfer of discourse practices between the classroom and the workplace. The initial plan was to elicit data from 40 student-trainees at 10 engineering enterprises, observing and interviewing 4 individuals at each enterprise. However, the following circumstances intervened: firstly, Durban and the surrounding areas were involved in protracted strike action at the time of the research which affected the companies initially scheduled for the study; secondly, the management of other companies were reluctant to continue with this study even though they had earlier given their permission to do so. Still, it was possible to conduct the investigation in eight out of the ten companies originally scheduled. The following tables show the respondents eventually represented in the sample:

Figure 30: Distribution of sample by company and discipline

Number of interviews per discipline				
	Electronic	Industrial	Mechanical	Electrical
Company 1				4
Company 2		4		
Company 3		2		2
Company 4		4		
Company 5	5			
Company 6	5			
Company 7			4	
Company 8			4	2

	Total interviews per discipline
Electronic	10
Industrial	10
Mechanical	8
Electrical	8

	Total observations per company
Company 1	1
2	1
3	1
4	1
5	1
6	1
7	1
8	1

As revealed by the above tables, eight of the initial ten companies were investigated. Where possible, only four respondents were part of the sample. However, it was considered necessary to exceed this number in three of these companies because of the difficulty in gaining access to electronic or electrical engineering student-trainees in other companies. The sample therefore consists of eight companies with the following breakdown: **8** groups of student-trainees observed and **36** student-trainees interviewed.

The items in the observations and interviews are arranged according to the research questions, so that each section of items corresponds to each of four research questions. In terms of this arrangement, the items relating to the research question in the observation protocol are analyzed simultaneously with the corresponding items in the interview protocol. The purpose is to extend the enquiry addressed in the group observation to the individual interviews for the following

reasons: the observation items are probed more deeply in the interviews; and the study seeks triangulation between the two data collection procedures as well as the data from phase one of the research.

4.4.1. RESEARCH QUESTION ONE

Research question one is addressed in the first section of the observation (Appendix 4) and interview (Appendix 5). Each section is divided into 4 subsections with subheadings for ease of reference. The analysis of each of these subsections is followed by an outline of the entire section as it relates to the research question as well as to other relevant parts of the study.

Please note that the language in brackets after a respondent's statement indicates the language background of that individual. This study provides that information to demonstrate how individuals from different language backgrounds participate as members of a discourse community.

Research question one is:

How do the generic communication practices taught in the communication course prepare students for the contextualized language operating in the workplace?

This research question is analyzed in terms of the following aspects: (i) language in group tasks; (ii) technical language; (iii) on-task interactions; and (iv) discussions about the task. The combination of observation and interview items in terms of language in group tasks is presented below.

Figure 31: Language in workplace group tasks

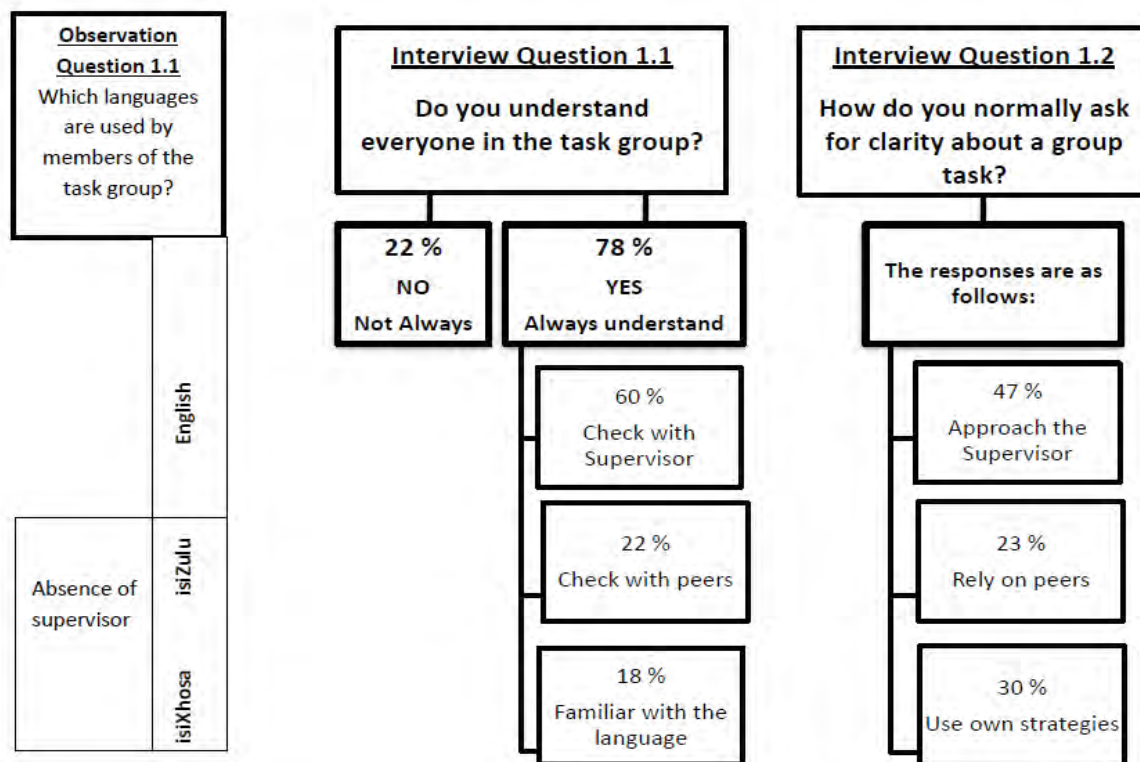
OBSERVATION	INTERVIEW
<p>(i) <i>Language in the group tasks</i></p> <p>1.1 Which languages are used by members of the task group?</p>	<p>1.1 Do you understand everyone in the task group?</p> <p>1.2 How do you normally ask for clarity about a group task?</p>

(i) Language in group tasks

The first observation made in the workplace is that the main language spoken during the group task in the companies investigated was English. English also emerged as the main language used during group tasks in the classroom (see section 4.2.2), with the majority of respondents mentioning that they considered it the academic language, therefore they felt justified in using it, irrespective of their diverse language background (presented in section 4.2.1). A similar pattern emerged during the observations of workplace discourse during the group tasks, with English as the dominant language followed by isiZulu and isiXhosa, mostly used in the absence of an English-speaking supervisor. The observation also revealed the likelihood that everyone was comfortable with English, and that switching to isiZulu and isiXhosa was not precipitated by any lack of understanding, which was evident in the confidence with which they approached the task. One may conclude here that switching languages was merely friendly asides rather than attempts at clarification.

The findings of the observations were probed further in the interviews in order to verify the researcher's initial impressions of the interaction between members of the task group. The items of the interview focused upon for this purpose involved: firstly, whether the individual understood other members of the task team; and secondly, how the individual sought clarity about the task. These are presented in the diagram below.

Figure 32: Understanding members of the task group



In response to the first item, the majority of respondents said that they understood everyone, while only 22% of respondents reported that they did not always understand everyone. These were not linked to language per se, but to factors such as: “the pace of talking” (isiXhosa); and “it has to do with accent” (isiZulu). In contrast, those who said yes (78%) provided reasons related to English as a common language among task group members. It emerges, then, that English is perceived by the respondents as the preferred language of formal interaction, especially with those “with whom one cannot assume lots of shared knowledge and experience” (Gee, 1996:143). The conclusion may therefore be made in this study that, if the official language of the discourse community is English, most members of task groups are likely to address each other in English. These findings support the view that, in the social context of the workplace, the majority of student-trainees communicate in English. Furthermore, the students’ preparation in English in the communication course is appropriate for use in the workplace, especially since the current course does not teach in other languages such as isiZulu and isiXhosa.

The second item of this interview, which is also linked to the first item of the observation protocol (see Figure 31), addresses the way in which individuals seek clarity about group tasks.

According to the data presented in Figure 32, nearly half of the respondents(47%) reported that they had approached the supervisor directly for clarification. As is evident from the questionnaire data, the typical student seems comfortable with directing queries to the authority figure, who is the lecturer in the case of classroom discourse. This may be seen as a tendency shared between students in the classroom and student-trainees in the workplace. However, the fact that 30% of respondents reported having used other strategies cannot be overlooked. For instance, one typical response is: “If the question is a technical one, I will ask the technician” (English). On the other hand, another response is: “The aim of the task guides me to the correct outcome” (isiZulu). 23% of respondents also reported that they rely on their peers in the first instance: “Firstly I would ask a colleague and if that does not help I will ask a team leader” (English). This leads one to infer that the context of the workplace possibly creates opportunities for student-trainees, at least one of which is the inclination to adopt suitable strategies in order to interact in group tasks. In this sense, the impulse to refer questions about the task to the supervisor may in fact be one of these strategies. Therefore, seeking clarity in group tasks may be seen as part of the student-trainee’s interaction with workplace practices. Also, the student-trainee’s reference to technicians, colleagues, and the task itself should be seen as instances of realistic workplace participation which may inform future communication course assignments.

The combination of observation and interview items in terms of technical language is presented in Figure 33.

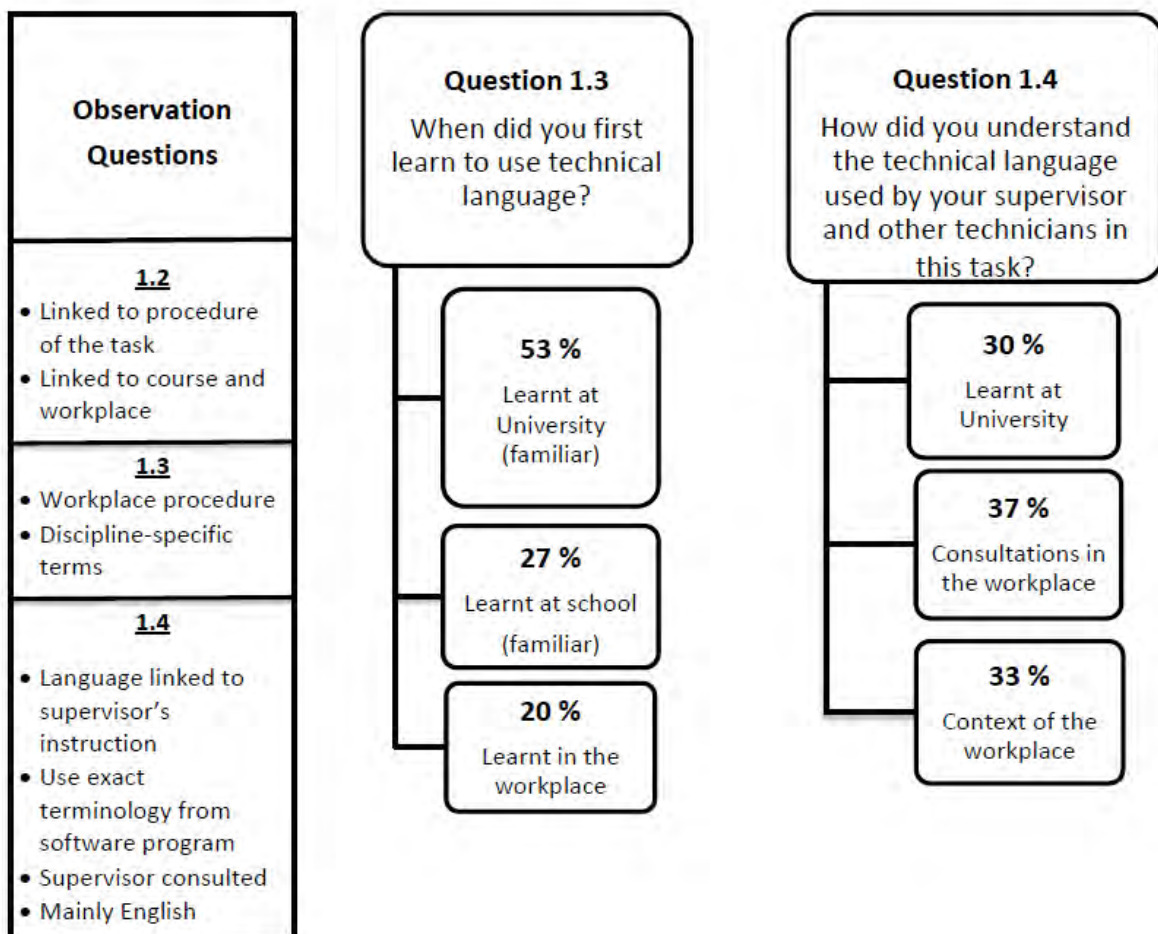
(ii) Technical language

Figure 33: Technical language in group tasks

OBSERVATIONS	INTERVIEWS
<p><i>(ii) Technical language</i></p> <p>1.2 How does the supervisor use technical language to set the guidelines of the task?</p> <p>1.3 Which technical terms do the participants use to describe the specifications of the task?</p> <p>1.4 How is the trainee interacting with the specific language of this task?</p>	<p>1.3 When did you first learn to use technical language?</p> <p>1.4 How did you understand the technical language used by your supervisor and the other technicians in this task?</p>

The ability to use technical terms is an essential feature of the student-trainee's capacity to discuss workplace tasks. In this regard, the observations suggested that the technical terms used were linked to the procedure within which the tasks were structured, and, to a lesser extent, were also connected to the specifications of the product with which the trainees and technicians were working. It was also observed that those technical terms not directly related to the procedure or the product, were mentioned orally by the supervisor during the discussions about the task. In this way, apart from the technical terminology learnt in the communication course, the student-trainees received guidelines from: the technical terminology within which the task is identified and designed; the specifications of the company's product; and the supervisor's discussions about the task. Since it is essential that the student-trainees should have adequate technical knowledge in order to participate in the task, it was decided to explore the extent of this knowledge in the interviews. The table below presents the observation findings together with the interview findings.

Figure 34: Technical language in the workplace



Three categories of response emerged from the interviews: those who learnt the technical language at university (53%); those who learnt it at school (27%); and those who were only introduced to this language in the workplace (20%). Of those who learnt it on campus, the majority mentioned that they first encountered it during the first semester (S1) with a typical response being: “On campus with engineering projects – it becomes your language” (English). Others, who learnt it later (S3) felt, for instance: “That”s when most of my subjects started becoming more technical” (English). Those who learnt technical language at school typically admitted that they learnt more at university, saying, for example: “and at DUT more technical language was introduced” (isiZulu). On the other hand, the respondents who credited the workplace with their knowledge of technical language qualified this by saying, for instance, that it was learnt “in the engineering course and the workplace” (English), and also that: “terminology is industrialized – apply that knowledge” (English). It emerges, then, that although some of the student-trainee”s expertise in technical language is learnt in the workplace, the basis of this training depends to a large extent on training in technical language as part of the engineering course materials. A lesser degree of the student-trainee”s expertise also comes from the use of technical terminology in the assignments of the communication course. Therefore one could argue for a more integrated approach which, for instance, sees a communication lecturer setting an engineering assignment in collaboration with an engineering lecturer. Internalizing technical terminology in this way might facilitate the student”s transition from classroom technical knowledge to expertise with technical terms in the workplace.

In order to verify the previous question on technical language, the inquiry was expanded to a follow-up question in the observation protocol. This question looked at the specific terms used during discussions, and how the student-trainees interacted with this technical terminology. According to what was observed, trainees worked with technical language based on workplace procedures such as “network drive to ping (electronic); and ADR (average daily requirement in a mechanical context). Technical language was also based on the manufacturer”s specific requirements for the task such as “setting reference points” and “setting the instrument to an ideal standard”. In this regard, the interviews provided the opportunity to probe each group member”s individual understanding of the technical language detected during the observations. When asked how they were able to understand the technical language during discussions about the task, their responses could be divided into three main categories. Firstly, some of them mentioned that the technical language used in the task discussion was similar to that used during their course (30%); secondly, others linked their understanding of technical language to consultations in the workplace (37%); while those in the third category felt that the technical language had become familiar to them while working in certain departments of the company (33%). A typical response in the first category is: “relates to what I was doing at university” (isiZulu), while the second category had this type of response: “asking people at the workstations” (English), and “different workplaces, different kinds of technical language” (English). Examples of responses in the third category were: “a way of speaking” (isiZulu), and

“not that technical” (English). Based on these responses it would seem that student-trainees in the workplace probably learn technical language with greater success than their counterparts in the classroom, some of whom have reported difficulties while working with technical language during the questionnaire phase (see 4.2.3). Still, one has to take into account one of the conclusions drawn from the discussion above, specifically that the university course provides the foundation for learning technical language. However, the findings of the current workplace observation and interview items serve to expand the earlier conclusion to include the following inference: classroom discourse acts as a basis for learning technical language while workplace discourse is likely to act as a catalyst for using technical language in group activities. In this sense the workplace task group may be perceived as a “social context” which facilitates the use of “shared conventions that shape activity” (Kain& Wardle, 2005:125).

(iii) On-task interactions

Figure 35: Understanding on-task information

OBSERVATION	INTERVIEW
<p><i>(iii) On-task interactions</i></p> <p>1.5 Which language(s) are used by the task at this stage?</p> <p>1.6 How is technical language used by the group members during the on-task discussions?</p> <p>1.7 Does anyone offer assistance to the trainee?</p>	<p>1.5 Do you think the supervisor and technicians understood your contributions in this task?</p>

The perception of „shared conventions“ of the task group is explored by the set of questions labeled: (iii) *On-task interactions*. For instance, in 75% of the companies observed by the researcher, technical language was used as part of the instruction during the on-task discussions, while in the remaining 25%, technical language was detected on graphs and wall charts related to the product. The likelihood of this providing a specific workplace context which promotes the use of technical language for the trainees was tested in the individual interviews. When asked a question which relates to their ability to interact within this technical setting, 47% of the trainees

reported that the supervisor's reaction had confirmed this ability. A typical response, for example, was: "I did the presentation and it was accepted" (English). On the other hand, a further 39% of the trainees suggested that their ability to perform the task proved their capacity with technical language. For instance, typical responses were: "Most of the time I tested the product and it worked" (isiZulu), and "Yes, because they sent me to [another branch] and it worked there" (isiZulu). The significance of these findings is that they corroborate the inferences drawn in (ii) above, but from a slightly different perspective. While the focus there is on the classroom as a basis for technical language, with the workplace as providing the setting for it, the findings here suggest that the workplace itself generates its own social impetus for using technical language successfully, and that the student-trainees feed off this social context in order to perform workplace tasks. In this regard, Paretti (2008) makes us aware of the "specific contexts and goals of the participants" in workplace tasks (2008:492). This relationship between the classroom as a broad base for technical knowledge, and the workplace as a specific technical environment, should make it possible for the classroom to adapt the quality and quantity of technical knowledge it integrates into course material, especially in the communication course.

(iv) Discussions about the task

Two aspects of the „specific contexts“ are addressed in the next set of questions: contributions by the trainee within these contexts; and workplace technical support. The relevant items from the observations and interviews are presented below:

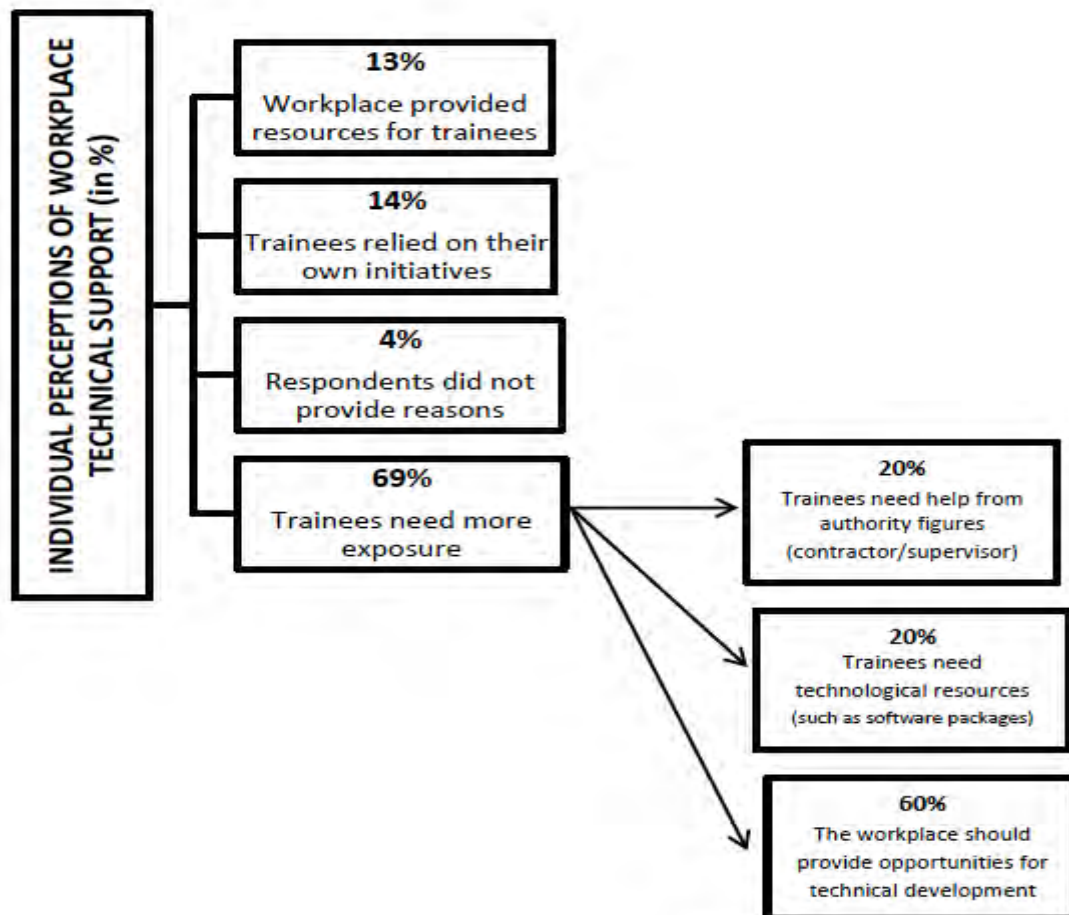
Figure 36: Discussing the task

OBSERVATION	INTERVIEW
<p><i>(iv) Discussing the task</i></p> <p>1.8 Does the trainee make any spontaneous contributions to the task?</p> <p>1.9 Does the trainee consult anyone outside the task group?</p>	<p>1.6 Do you think the activities during the group assignments in the Communication course helped you with this group task?</p> <p>1.7 How did the technical language you learnt in the workplace help you with this group task?</p> <p>1.8 Is there anything that could have helped you to contribute more to this task?</p>

The findings were that the trainee received support from the workplace in the following ways: 50% of the workplaces provided all the technical support required by technician and trainees; in 25% of the workplaces, the task group was a self-contained unit which did not need assistance in understanding specifications and instructions in technical language; and in 25% of the companies observed, the task group had the option of consulting with R&D (Research and Development). These findings substantiate the interpretation in (iii) above of the workplace context as self-sufficient and supportive, at least in terms of technical language. However, it is also necessary to address the second aspect of this set of questions: the individual trainee's perception of the technical support witnessed by the researcher via the observation protocol.

This interview question (Is there anything that could have helped you to contribute more to this task?) is likely to provide triangulation in terms of technical language support in the workplace. The breakdown of the responses to this question is shown in the table below.

Figure 37: Individual perceptions of workplace technical support



At first glance, the findings from the interviews would seem to refute the findings from the corresponding observation question. Only 13% of the respondents reported that the workplace provided adequate resources linked to technical language; while 14% suggested that they relied on their own personal development. In contrast, a significant 69% said that they needed more exposure to workplace-related knowledge. Of these, 20% mentioned an authority figure, with a typical respondent saying: “The contractor could give me more clarity” (English). A further 20% referred to technological resources, with a typical response being: “I need exposure to more software packages” (isiZulu). The majority of respondents (60%) however, focused on the workplace as an entity that could provide the opportunities to excel in technical language. In this regard, a typical respondent intimated: “I need more hands-on knowledge” (English).

Initially the findings from the interviews did not seem to support those of the observations, which found that the workplace provides substantive support to trainees in terms of the development of their technical language skills. However, the position taken in this study is that the workplace does indeed provide support. The first reason for this is that 69% of the respondents did not mention the classroom, for instance, as a possible provider of this kind of skill. The second is that these respondents mentioned specific aspects of the workplace context. Therefore they should be familiar with these aspects. Subsequently, it may be interpreted that they have the necessary exposure, but, when pressed on the “anything more?” aspect, are more likely to mean that this exposure would also assist them in future. As a result, the findings of the probe into workplace support serve to strengthen the previous inferences in section ii (technical language) and section iii (on-task interactions) above and, as a consequence, the workplace may be seen as an enabling context for technical language development which builds on the foundation laid by the communication course

In conclusion, the basis for technical language training should be laid in the technical terminology of the engineering course materials and the preparation by the communication course, and the workplace should be seen as a context for facilitating the use of technical language in authentic group tasks. However, the communication course should take into consideration the social interaction which characterizes group tasks in the workplace since it has the responsibility of preparing students to use technical language in workplace group tasks. In this regard, Kain and Wardle (2005) make us aware that the context of the communication course may differ from “the myriad of workplace contexts that students will enter” (2005:119). The communication course could also be structured in a more innovative way. For instance, the classroom could be made to resemble the environment of the workplace by incorporating artifacts from the engineering companies in an industrial area in close proximity to the university. In this way, the communication course could build an assignment around the artifact, with the co-operation of the engineering lecturer.

4.4.2. RESEARCH QUESTION TWO

As mentioned at the start of 4.4.1 above, the organizing principle of this part of the analysis, which draws on the findings of workplace observations and interviews, is determined by the chronology of the research questions. Therefore, while section 4.4.1 addresses the first research question, this section is concerned with the workplace investigation connected to research question two, namely:

How prepared are student-trainees to interact appropriately with supervisors in the workplace?

The analysis focuses on the following aspects of the research question: (i) the language of the task given by the supervisor; and (ii) the perceived difference between the supervisor's request and the lecturer's instruction. The reason for addressing these two aspects is to ascertain the factors which contribute towards the trainee's understanding of the supervisor's instructions. The two aspects are linked to items in the observation and interview protocols as illustrated in figure 38 below:

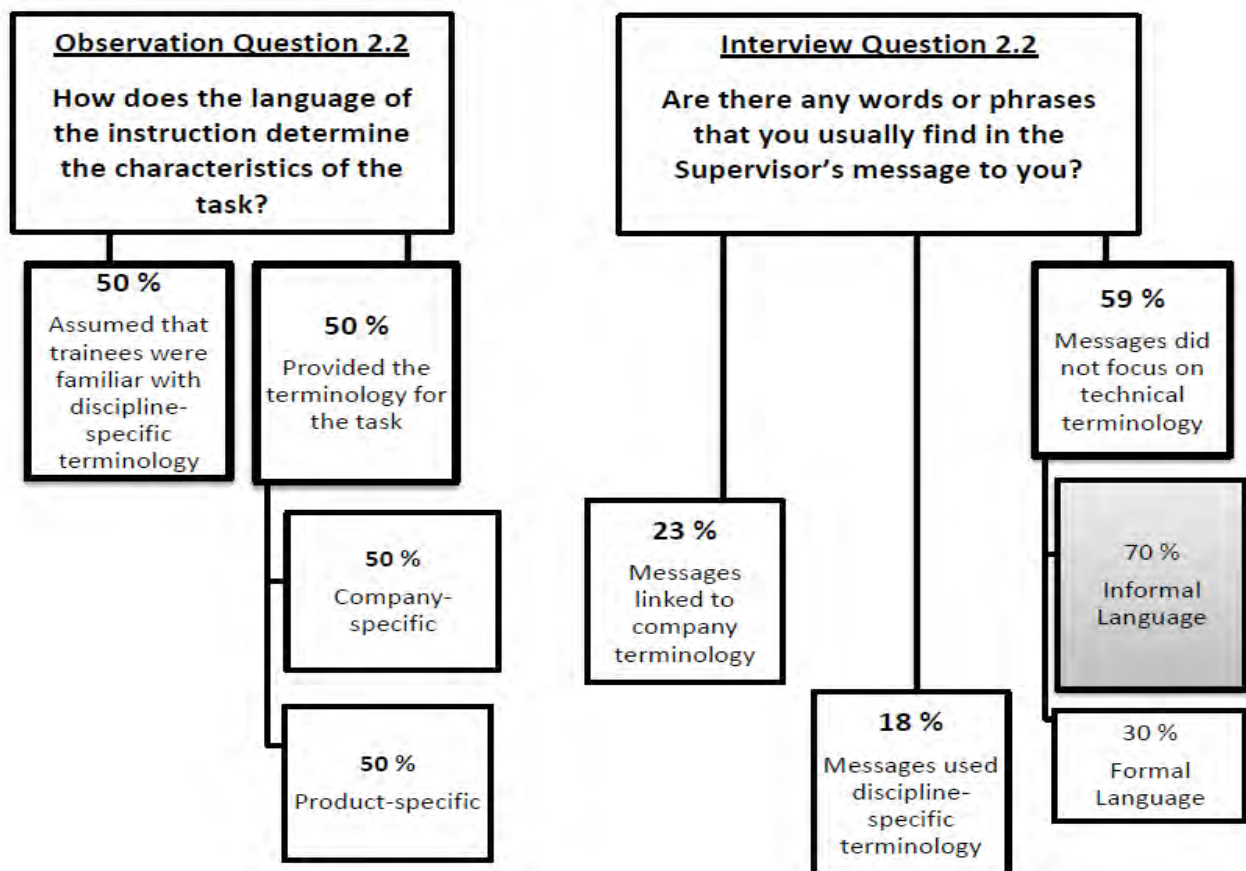
Figure 38: The supervisor's directives

OBSERVATION	INTERVIEW
<i>(i) Language of the task</i> 2.2 How does the language of the instruction determine the characteristics of the task?	 2.2 Are there any words or phrases that you usually find in the supervisor's message to you?
	<i>(ii) Supervisor's request and lecturer's instruction</i> 2.7.2 Are there any differences in language (between your lecturer and your supervisor) that you can think of? 2.9 Do you think your technical knowledge from the Engineering course prepared you to understand the technical terms in your supervisor's messages?

(i) Language of the task

In terms of language used in the instructions by supervisors, the observations reveal that, in 50% of the companies investigated, supervisors seemed to proceed from the assumption that the student-trainees were familiar with the terminology used. The terminology used in the remaining 50% of the companies was specific to the context within which the trainees were working. In half of these cases, the terminology observed was determined by company software, while the other half was dictated by the product itself. Therefore the student-trainees would either need to familiarize themselves with the language of the company software or the language of the product manufacturer's specifications in order to carry out the task set by the supervisor. In terms of the structure of this part of the research, this item in the observation protocol is aligned to a corresponding item in the interview protocol. This allows the researcher to revisit the observation item (2.2) in the connected item in the interview: "Are there any words or phrases that you usually find in the supervisor's messages to you?" The table below presents the patterns which emerge from the findings.

Figure 39: The language of the supervisor's message



The purpose for focusing on item 2.2 is to discover the extent to which the researcher's initial impressions can be substantiated by the data emerging from the individual interviews. In this regard, the findings show that 23% of those interviewed said that the words and phrases were linked to the terminology prescribed by the company. This includes company codes and the language which emanates from company software. For instance, one respondent referred to „446“ denoting a department; while another respondent mentioned “reload operating system” (English), a command taken from company software. A further 18% of respondents referred to terminology linked to the particular discipline in engineering. This included terms such as „map“, network drive“, „warranty“, and „analysis“. The majority of the respondents (59%), however, reported that the supervisor's messages were not only focused on technical terminology. Instead, these messages were phrased in either formal language (30%), or informal language (70%). Formal phrases include “Could you please ...” (isiZulu), and signals for daily tasks such as “Critical paths of the day ...” (English). Informal phrases, on the other hand, account for a significant portion of the responses; therefore it is necessary to take a closer look at the meanings behind these messages. For instance, one of the respondents related the following message from his supervisor: “Guys, we need to do this” (isiZulu). During the interview, this respondent intimated to the interviewer that he understood the message as: “You need to do this”. In other words, even though the message is couched in informal language, the pragmatic force of the phrase is immediately apparent, because of the “hierarchical distance between the commander(s) and the commandee(s)” (Iedema, 2000:74). Furthermore, the lexical items such as “need” introduce the imperative within this context. It is likely that the supervisor would have a list of such words at his/her disposal, to include in messages that carry predetermined meanings. This view is supported by Iedema's (2000) contention of a “specialized language” (2000:74) which is used in institutional directives. The messages in the data, may not be as specialized as those referred to by Iedema, but the student-trainees still needed to be sensitive to the actual intention of the supervisor's utterances in order to perform the workplace tasks accurately.

This section is concerned with the context, in terms of language, within which tasks are normally given to student-trainees. The motivation is that insights into this context will promote an understanding of the discourse of the supervisor's requests from the student-trainee's point of view. The findings from the observations show that 50% of workplace discourse viewed in this regard was characterized by terminology linked to the company or the product. This correlates roughly to the 41% typified by discipline-specific or company-specific terminology reported in the individual interviews. By contrast, the observations showed that the remaining 50% of the language used by supervisors in this context was not directly linked to specific terminology. This was also substantiated by the interviews, which revealed that 59% of the language used in the supervisor's messages was characterized by non-specific phrases. However, 70% of these messages were framed in informal phrases, which account for more than 41% of the overall reports in the interviews. Therefore one may conclude that, even though discipline-specific and company-specific terminology forms a vital part of the discourse of workplace instructions, it

may be useful to pay close attention to the language of informal workplace instructions because the findings have revealed informal language as a feature of workplace discourse. An implication for the communication course is that its assignments could be informed by discipline-specific terminology which is characterized by the kind of informal directives actually used in engineering companies. Perhaps these informal instructions could be given orally, as part of the formal written assignments linked to discipline-specific material.

(ii) The supervisor's request

This section addresses the extent to which the student-trainee's prior experiences with the discourse of lecturers and coursework contribute towards an understanding of the workplace supervisor's instructions. Therefore item 2.7.2 investigates the difference, in terms of language, between the directives of the lecturer and the supervisor. Subsequently, item 2.9 examines how coursework technical knowledge influences the student-trainee's understanding of technical terms in the supervisor's message. Therefore the table below compares the lecturer and the supervisor in terms of language use and technical terminology.

Figure 40: Comparing lecturers and supervisors

LANGUAGE	
31 % Technical terms	<u>Lecturers</u> Few technical terms
	<u>Supervisors</u> High volume of technical terms
69 % English language	<u>Lecturers</u> Formal Language
	<u>Supervisors</u> Informal Language

In terms of the difference between lecturers and supervisors (item 2.7.2), 55% of respondents directly addressed the language used by lecturers and supervisors. Of these, 31% focused on technical terms in the instructions, while 69% referred to language in general. Those who reported on technical terminology said that lecturers tended to use fewer technical terms in contrast to a high volume of technical terms in the supervisors' messages. In this regard, a typical response was: "(The lecturer) does not use the technical terms of industry – (The supervisor) uses technical terms that are work-related (product-specific)" (English). The remaining 69% of respondents who focused on language reported that, while lecturers tended to use formal language, supervisors used informal language in their instructions. For instance, a typical

response was: “lecturers use textbook English – supervisors communicate freely” (isiZulu). A similar phenomenon is identified in the findings of paragraph (i) of this section which also reveal the prevalence of informal language in the supervisors’ instructions. Therefore the corroboration of findings from different items in these data points to the possibility that informal language in communication course assignments could contribute to the student’s preparation for workplace directives.

The next item (2.9) examined whether knowledge from the engineering coursework complemented by the communication course helped the student-trainee to understand the technical terms of the supervisor’s messages. The findings were that 45% said yes, while 55% replied „not always“. Those who gave a positive answer claimed that the coursework had provided a basic understanding of the technical terminology of the workplace. In contrast, those who were inconclusive felt that, although the foundation of the coursework was important, they were aware that the workplace offered new challenges in technical knowledge. For instance, in one example the respondent recognized the importance of the discipline, but appreciated: “this exposure to learn the different terms used in the real world” (English). Another respondent in this category intimated that: “Most of the terms you learn from university need to be infused with some new terms you will find in industry” (isiZulu). The main point which emerges here is that coursework provides a basis in more general technical language which is developed within the context of the workplace. A similar position is taken in the analysis of the set of questions on technical language in group tasks (see 4.4.1, ii above): classroom discourse acts as a starting point for technical language while workplace discourse acts as a catalyst for using it. In this way, the findings in this section validate the inferences drawn in that section.

This analysis proceeds from research question two, which seeks to determine the extent to which the student’s background with lecturers as well as coursework helps the student-trainee to understand the workplace supervisor’s requests. The findings have revealed two significant aspects in this regard: informal language and workplace context. Firstly, the discussions have demonstrated the prevalence of informal language in the supervisor’s requests, as opposed to formal language in the lecturer’s instructions. Therefore the structure of informal language in the workplace could be incorporated into the communication lecturer’s directives. According to Iedema (2000), the distance between the supervisor and the trainee makes it possible for an apparently light-hearted request to assume the authority of a command in the workplace. Furthermore, the data has uncovered that predetermined meanings of certain lexical items possibly become clear to the trainee when used in this way. These possibilities could contribute towards the student-trainee’s understanding of workplace directives. Secondly, in the discussions on prior technical knowledge in the workplace, a link was established between coursework knowledge and workplace practice. But, according to the findings, the technical knowledge gained from lecturers and coursework can only become useful within the context of the

workplace, especially when it forms part of the student-trainee's response to the supervisor's directives.

4.4.3. RESEARCH QUESTION THREE

The third research question in this study is concerned with written genres within the context of the workplace. Therefore the purpose of this section is to identify the rules governing written documents in the workplace, and to ascertain the extent to which the student-trainee has been prepared for the task of producing these documents. Research question three is:

How are the genre rules of the communication course maintained and / or modified in the language used when these genres are enacted within the context of individual workplace documents?

The data from section three of the observations and interviews, based on research question three, will be discussed in terms of the following focal points: (i) genre rules in the workplace; and (ii) transition of genre practices. These discussion points, together with the relevant items from the observation and interview protocols, are contained in figure 41 below:

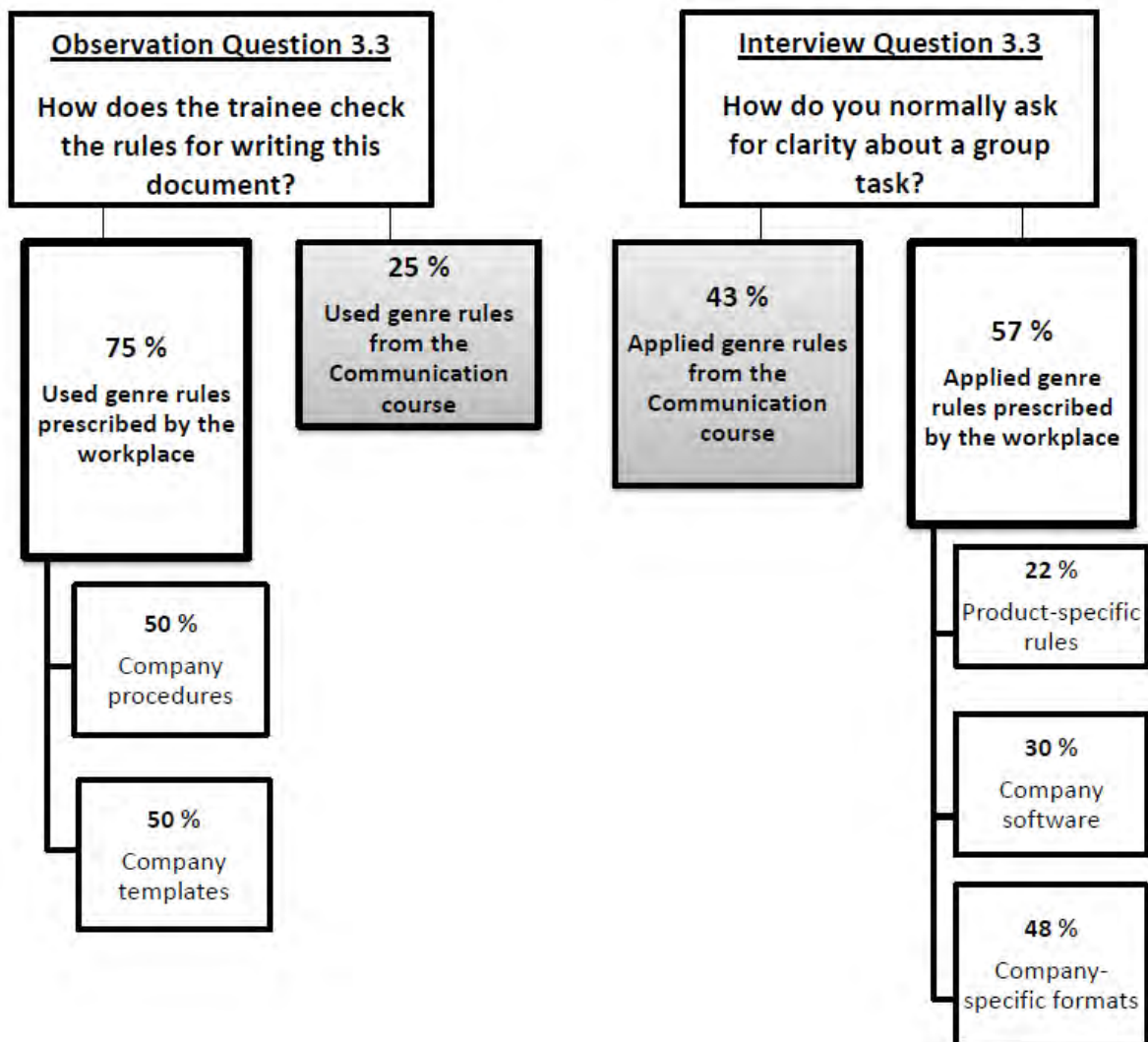
Figure 41: Genre practices in the workplace

OBSERVATION	INTERVIEW
<p>(i) <i>genre rules in the workplace</i></p> <p>3.3 How does the trainee check the rules for writing this document?</p>	<p>3.3 Tell me about the rules that you have applied to this document.</p>
<p>(ii) <i>transition of genre practices</i></p> <p>3.6 How is the final draft of this document edited?</p>	<p>3.6 Which document writing rules that you learnt in the communication course do you use in the workplace?</p> <p>3.7 Have you made any changes to those rules of the communication course here?</p> <p>3.8 Which document writing rules did you learn only in the workplace?</p>

(i) Genre rules in the workplace

In terms of item 3.3 of the observation, it was decided that the written report, the most common genre apart from email, would be the focus of the question. The findings revealed the following trends in report writing: 25% of the trainees relied on genre rules normally taught in the communication course; and 75% of them referred to prescribed genre rules set by the company. Those who used familiar genre rules from the communication course could check the accuracy and form of the document by consulting their supervisors. On the other hand, those trainees who produced documents according to company guidelines can be divided into two categories: 50% of them followed standard company procedures with the aid of procedural diagrams while the remaining 50% wrote their documents on company templates which included company software, though it was not apparent during the observation stage how many of these only used company software to prepare their reports. These findings from the observations do not show the extent to which the communication course could have influenced genre rules in this context. However, it is possible that the communication course rules may have been adapted to suit the specific needs of company procedures and company templates. In that case, the implication for the communication course is that the genre rules taught should be flexible enough for adaptation to specific workplace contexts. This observation question is addressed from the trainee's point of view in the interviews. The combination of findings from the observations and interviews is shown below.

Figure 42: Using genre rules in the workplace



As part of the research design, the interviews provide the opportunity to explore the workplace genre rules identified during the observation stage. In this regard, the findings from the interviews are divided into two broad categories: 43% reported that they applied genre rules from the communication course to their documents, while 57% told the researcher that they used document writing rules prescribed by the company. Those who mentioned the communication course (43%) referred to specific characteristics of a professional document such as format and register. In this regard, one respondent gave the following reasons: “brevity / to the point / summarize / precise / actual figures” (isiZulu), while another listed: “3rd person / correct incorporating of diagrams” (isiZulu). These conventions in genre practice correspond to the genre rules in the communication course, as discussed in the Phase Two findings of this Chapter

(4.3.1). It would seem, then, that in terms of the „observable“ aspects of genre alluded to by researchers such as Firth and Lawrence (2003:3), transfer of genre rules has occurred for this category of respondents. But those respondents who referred to company genre rules are in the majority (57%), therefore one should take a closer look at the individual responses. In this category, 22% of the respondents said that their document writing rules are specific to the product they have been assigned to; 30% reported that they produce their documents on company software; and 48% declared that they are required to write documents according to company-specific formats. Most of the respondents who mentioned product-specific rules said that they also had to work with record sheets for each product. These would ultimately take the form of a report to management. A typical response is: “Each product has its own unique numbers (or codes)” (English). In this instance, the researcher did not find evidence of the genre rules such as those taught in the communication course. The interviewees, who reported that documents had to be prepared on company software (30%), said that, in most cases, they had worked with some of the software packages on campus. However, they were introduced to new software according to the processes and products involved in their tasks. For instance, in one of the interviews, the researcher was told that a familiar piece of software, CAD (Computer-aided drawing) was incorporated into the written report, but that another one (LOGIC 5000) was only introduced in the workplace.

The respondents who had to write reports according to company-specific formats (48%) said that, although the language of the document coincided with what they had been taught in the communication course, the structure of the document was different. This new structure prompted a different approach to the document as it seemed more focused and immediate compared to the report structure of their course. For instance, the communication course presents report structure as: Terms of Reference / Procedures / Findings / Conclusions / Recommendations (see Appendix 7). The course teaches each section of this genre with a motivation as well as an overall approach for the whole document. In contrast to this, the workplace requires a practical approach which, in turn, demands a corresponding pragmatic structure for management’s purposes. This structure is summarized in the following typical response: “The sections of the report are: Introduction / Body / Conclusion” (English). The difference in structure may not seem so radical at first glance, but according to the student-trainees it required considerable training and adaptation to produce a concise report which focuses on aspects such as costs, space, quality and materials.

In terms of the respondents using genre rules in their reports, there appears to be a disparity between the findings of the observations on the one hand, and the interviews on the other. The researcher observed only 25% of trainees applying genre rules, while 43% of those interviewed claimed that they were applying the genre rules learnt in the communication course. This can be accounted for as an overlap between the genre rules of the classroom and the document writing formats of the workplace. One reason for this overlap is the similarity between the genre rules of the classroom and the document writing rules in some of the companies investigated. However,

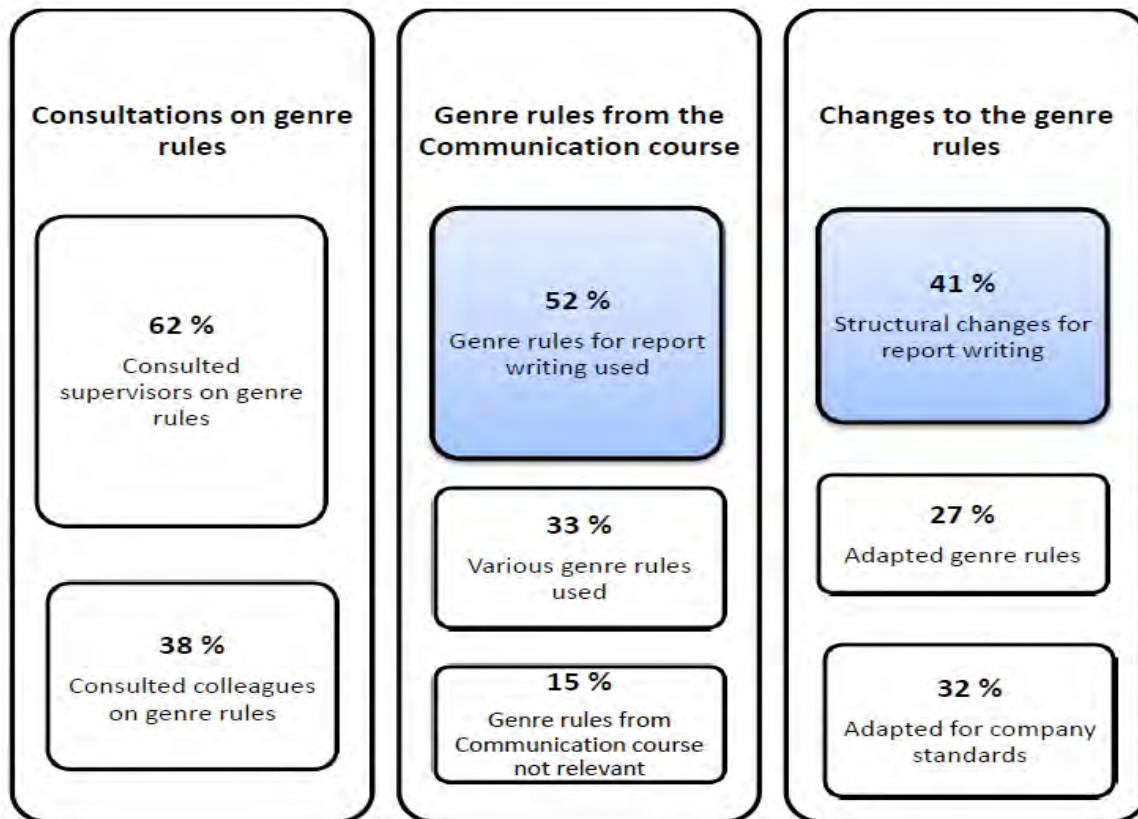
the present study sees this tendency as evidence of the student-trainee's ability to adapt genre rules to different contexts. This view is supported by researchers such as Lea and Street (2006), who promote the notion of students' ability "to switch their writing styles and genres between one setting and another" (2006:369).

With regard to company-specific document writing rules, the observations revealed that the majority of companies investigated (75%) prescribed standard company procedures for document production. The follow-up questions in the interviews substantiated this as a majority trend (57%). Apart from the various manifestations of predetermined company procedures such as product-specific processes, standard operating procedures, and company software, the point is that in most cases the workplace determines how the genre rules are applied. The position taken here is that the classroom genre rules are transformed into workplace genres in this context. However, the communication course could facilitate this transformation by incorporating authentic products usually manufactured within the various engineering disciplines into its assignments. Ideally, this can be done as a collaborative project between the communication lecturers and the lecturers of engineering disciplines such as mechanical or electronic engineering. Furthermore, this collaboration could also be instrumental in finding the available information on software and procedures currently used by engineering companies, and importing this information into the communication classroom.

(ii) Transition of genre practices

The previous section interrogated the way in which genre rules operate within the context of the workplace. This section investigates how the genre rules at the disposal of the student-trainee are maintained and/or modified and the extent to which workplace-based document writing rules form part of the student-trainee's repertoire. In this regard, the observation question, "How is the final draft of this document edited?" was intended to reveal the negotiations and checking which accompany the submission of a workplace document upon completion of a task. According to the findings, consultations occurred in all the workplaces in this study, with cross-checking of documents as a minor activity. 62% of the student-trainees consulted their supervisors directly, while the remaining 38% consulted their colleagues. These interactions focused mainly on the language and structure of the document, as well as adherence to company formats and procedures. The observation stage was followed by interviews with student-trainees during which the following concerns were addressed: genre rules from the communication course; changes to those genre rules; and the genre rules learnt from the workplace. The themes emerging from the observation and interview findings are arranged below.

Figure 43: Adaptation of genre rules



When asked about genre rules from the communication course, 15% of those interviewed intimated that they could not remember any useful rules from the communication course; 33% said that they used various genre rules; and 52% of respondents replied that they had maintained the rules for report writing. An example of the responses in the first category was the following: “They (communication course) did various documents – not relevant to what we do” (isiZulu). On the other hand, one of those who mentioned using various genres said, for example, that: “Memo rules are used for outside contractors” (isiZulu). The important point for the study is that most of the respondents in this category had found a purpose for the genre rules they learnt in the communication course. In this regard, one of the respondents who recalled maintaining report writing rules mentioned: “using the structure of reports and adapting them to the workplace” (isiXhosa). Three points emerge from this section. Firstly, report writing is the genre which the majority of students consciously bring to the workplace. Secondly, most student-trainees investigated are able to apply their various genre rules to workplace contexts. Thirdly, the genre rules are usually adapted to suit the demands of the workplace. This adaptation is essential in terms of activity systems, because the student-trainee is required to use genres as tools which mediate information in the workplace activity system, as discussed in sections 2.10.1 and 2.10.2.

In terms of changes made to the rules learnt in the communication course, 27% of the respondents replied that they applied these rules, but were required to make changes in the workplace. For instance, one response was: “We make adjustments, but the core piece remains the same” (English). 32% of the responses referred to company standards which had to be maintained when producing written documents. 41% of the respondents mentioned that they had to make structural changes to their report genre rules in workplace documents. One of these said: “We only use part of the structure: Findings, Analysis and Recommendation” (English). Other respondents stated that the structure of a written report had undergone a fundamental change into a „problem – solution“ structure. The findings in this section demonstrate that genre rules are sometimes maintained, but mostly modified in the workplace. For instance, reports in the workplace are seldom produced in the same way as in the classroom, where the document maintains its features. Rather, it is most likely that a document will be adapted to suit the workplace. Therefore the communication course could make a contribution towards the student-trainee’s ability to adapt genre rules for the workplace by adopting a social perspective to genre training. This social viewpoint is promoted, for instance, by researchers such as Paretti (2008: 492), who advocates that the use of genre rules is subject to the “social situations” of the workplace (see section 2.3.1). This would also require the flexibility in genre training which is indicated in 4.4.3 (i) above.

This section of the study has addressed the concerns of research question three (how genre rules are enacted in the workplace) as articulated in the following main points: consultations during document production; the situated character of genre practices; maintenance and modification of genre rules; and workplace practices. With regard to consultations, most student-trainees were observed checking with supervisors as well as colleagues about fulfilling the rules of the workplace in completing their documents. From the perspective of this study, these interactions provide evidence for a social view of genre practices. These consultations, according to Johns (2002), signal to the researcher that the student-trainees are interacting socially to ensure that the use of genre rules fulfill the „demands of a social context“ (2002:3). Within this social environment, genre rules of the classroom are adapted to suit the types of activity demanded by the context of the workplace. Therefore the context determines the adaptation because of the „situated nature of genre use“ (Kain & Wardle, 2005:116). The adaptation is defined in terms of Yates and Orlikowski’s (1992:310) concepts (see section 2.3.2). In this regard, the findings have shown that, in the companies investigated, genre rules have either been maintained or modified. Finally, the workplace has its own set of standards, and each product has its own timetable. Therefore the workplace determines how documents should be written, whether by means of a template, or the company software. Student-trainees have reported using document writing rules which they only encountered in the workplace. However, the researcher has observed that classroom genre rules can still provide a foundation for the genre rules of the workplace. The findings on genre rules have shown that the communication course and the workplace are part of a continuum in terms of the student’s preparation for workplace tasks. The communication

course lays the foundation by providing training in genre rules, while the workplace provides the opportunity for the practical application of these rules within a specific context. The communication course can facilitate the student's transition to the workplace by providing genre rules which are adaptable and flexible.

4.4.4. RESEARCH QUESTION FOUR

The fourth research question is concerned with the overall environment of the workplace. By means of the set of questions in this section, the study seeks to determine the extent to which the workplace provides a suitable learning environment for making the transition from classroom discourse to workplace discourse. Since this research views learning from a social perspective, it relies on Wenger's (1998) community of practice theory as a framework within which to view the workplace in terms of the student-trainee's engagement with colleagues, supervisors, and artifacts of the workplace. In this section, the study did not necessarily aim at direct correlation between the observation item and the interview items. However, it was felt that the research question could still be addressed because the observation takes a holistic view of the workplace setting which facilitates the student-trainee's participation in the engineering community of practice. Research question four is:

Does Wenger's (1998) construct, communities of practice, provide a framework for investigating the language used in the interactions between student-trainee, supervisor and artifact in the engineering workplace?

The item from the Observation (Appendix 4) which relates to the discussions in respect of research question four is shown in the following table. The remaining observation and interview items in this section were intended to provide supporting information for the items listed below.

Figure 44: The social environment of the workplace

OBSERVATION
4.5 Are there any artifacts which promote the primary products of the workplace?

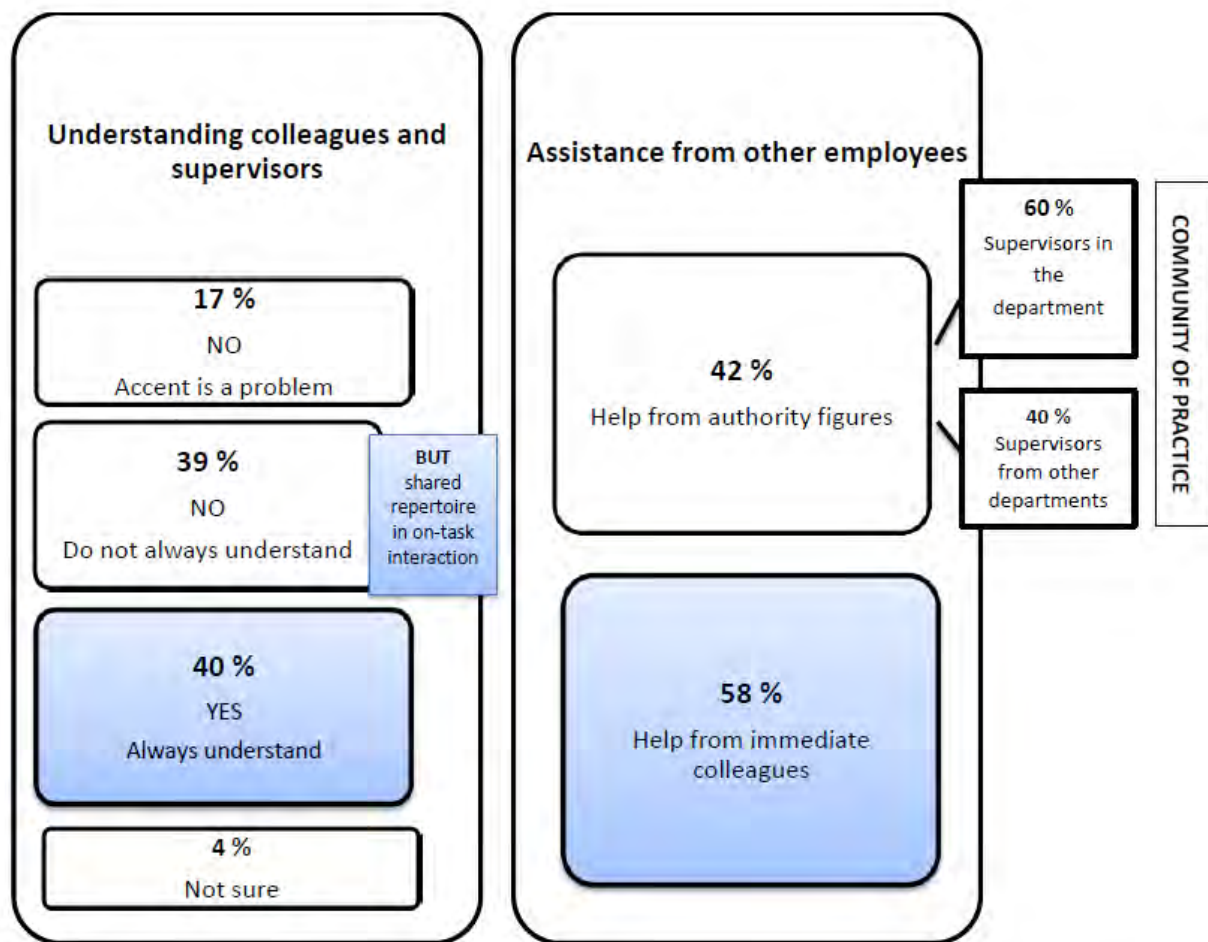
Item 4.5 of the observation protocol is intended to explore the extent to which the workplace promotes an awareness of the end-products of the company. This awareness, it is argued, would facilitate the student-trainee's ability to participate as a member of the community of practice constituted by the engineering company. In this regard, the researcher observed a number of artifacts which would fulfill this purpose. 31% of these were disseminated electronically. For instance, one company showed specifications of all machines in production on personal computers. A further 19% demonstrated models of products at strategic places in the workplace, one of which had models of vehicle parts mounted on the floor space. The remaining 50% had information about products on notice boards in the work areas. An example of these was the schematic diagram of the current product designed by technicians with the assistance of the student-trainees. These are the observable entities which Wenger (1998:58) refers to as „reifications“ (see section 2.4). From a social point of view, the reifications facilitate the student-trainee's understanding and awareness to interact within the workplace context. The implication for the communication course is that it should incorporate as many of the discipline-specific artifacts into the teaching environment as possible. Furthermore, as indicated in the discussion on genre rules (4.4.3 i), authentic products from the workplace or reasonable facsimiles could contribute towards creating an environment for working with workplace-related genre practices. Within the framework of this social environment, the interviews explored the nature of interaction between members of this community of practice. The interview items are presented below:

Figure 45: Interaction within the workplace context

INTERVIEW	
4.1 Do you always understand your colleagues and supervisors in the workplace?	4.6 Do you sometimes get help from other employees in this company?

The two concerns relevant to this study were: whether the trainee understood the other employees; and the extent to which the trainee could count on the co-operation of other employees. The findings are presented below.

Figure 46: Social interaction in a community of practice



With regard to the first concern, 17% of the respondents mentioned accent as a barrier to understanding. One typical response was: “Their (colleagues’) accent tends to be too difficult to understand” (isiZulu). 40% of the respondents said that they always understood other employees. One reason offered was: “Everyone can understand English” (isiXhosa). A further 39% replied that they did not always understand other employees. However, when this question was rephrased by the interviewer, it emerged that a „lack of understanding” did not deter the trainees from performing their tasks. One respondent intimated: “But they ensure that we know what’s to

be done” (isiXhosa). One may argue that, since they are working towards a common goal in the workplace, the employees have a collective understanding which may transcend their language background. On another level this phenomenon could also be seen as evidence of a „shared repertoire” between members of a community of practice, as suggested by Allee (2000:4). This social dimension of workplace practices is supported by the findings which relate to on-task interactions in section 4.4.1 (iii). Those findings demonstrate how the social context of the workplace provides the stimulus for interacting with other employees during on-task discussions. Similarly, the findings from this section show how the workplace enables colleagues from different backgrounds to work together, participating in an engineering community of practice.

The second concern addressed in the interviews is whether trainees have the necessary co-operation from other employees. 42% of those interviewed pointed to their authority figures in this regard. Of these, 60% felt that they received the most assistance from their supervisors and operators, while 40% indicated that supervisors from other departments often helped them with tasks. From a social perception of learning, this type of interaction, with mentors and potential mentors helping the trainee, can best be described as „learning as social participation” in Wenger’s (1998:40) terms. Other findings which contribute to one’s view of the workplace as a social network emerge from the remaining 58% of those interviewed. These respondents claimed that they receive all the help they need from their immediate colleagues who are mostly trainees involved in the same project. A typical response in this regard was: “If there’s something you don’t understand, you can always ask” (isiZulu). These findings support the viewpoint of the previous paragraph in terms of the workplace as an enabling environment.

This study views the engineering workplace as a social network. It therefore positions the employees and artifacts within the framework provided by community of practice theory. Within this framework, the student-trainee is a participant, and is therefore assisted by mentors and other members to perform tasks and make decisions on how genre rules should be enacted. In terms of the research questions, if the student-trainee interacts within this community as a participant, the dynamic nature of the community of practice will enable her/him to engage in its discourse, which encapsulates an understanding of the supervisor’s requests, technical language, and genre rules. The implication for the communication course is that its materials could be based on a social perception of the workplace. This viewpoint is likely to impact on the way it sets assignments, incorporates technical language into coursework, and aligns genre training to workplace genre practices in order to contribute towards the student’s transition from the classroom to the workplace.

CHAPTER FIVE

CONCLUSIONS

5.1 INTRODUCTION

The aim of this study is to investigate how a generic communication course can contribute in the preparation of students for an engineering workplace. This chapter will address the following factors which impact on this preparation: contextualized language, the supervisor's directives, genre rules, and communities of practice. The chapter will also offer recommendations based on the findings and analysis of this study and will provide an account of the limitations of the research.

5.2 CONTEXTUALIZED LANGUAGE

Research question one was focused on the language used in classroom tasks and workplace tasks. The purpose was to ascertain the extent to which the generic communication training was sufficiently adequate to drive the discussions around the specific tasks of the workplace. The findings prompted a closer look at the contexts within which language was used in the workplace. Therefore the study also investigated whether the students were adequately prepared in technical language for workplace tasks. For instance, the findings from the questionnaires conducted in the classroom environment have shown that students experienced difficulties when they attempted to apply technical concepts to task group discussions. Yet their responses revealed that they understood most of the technical terms of the engineering curriculum. The inference drawn here is that they were not given sufficient guidance to see themselves as active participants in the classroom discourse community. This is because the context of the classroom facilitates the type of learning that is geared towards success in academic terms, and does not necessarily promote social interaction as part of discourse. The analysis of the communication course materials reveals a similar trend: it presents detailed guidelines for doing group work assignments. But it seems to operate under the assumption that being able to manipulate language in these exercises would translate into an awareness of how language is used in authentic workplace settings. In this regard, Kain and Wardle (2005) suggest that: "The communication practices of workplace professionals occur in contexts that are more dynamic, more collaborative than the contexts of classrooms" (2005:113). The findings from observations in the workplace have uncovered a tendency among student-trainees to excel at using contextualized language during group tasks, even though their training and practices in classroom discourse would suggest otherwise. The information from individual interview data supports the observation findings: student-trainees reported using company-based and product-based technical language together with the technical language of the engineering classroom

during their task group discussions. Therefore, in terms of contextualized language in group discussions, this study promotes a view of discourse that takes the two contexts of the classroom and the workplace into account. From this perspective, an overlap between the two contexts is identified, leading this study to formulate a scenario in which the discourse practices of the classroom provide the foundation for using contextualized language in group tasks while the workplace context acts as a catalyst for the development of these language skills. One possible approach to better prepare the students for the workplace would be to bring certain features of the workplace to the classroom. For instance, since contextualized language is used within the contexts of products and company, perhaps lecturers responsible for the experiential learning programmes could liaise with companies whose products are associated with their discipline in order to address these features.

5.3 THE SUPERVISOR'S DIRECTIVES

Research question two was designed to determine whether the student's responses to the lecturer's instructions in the communication course can benefit from an understanding of the student-trainee's responses to the workplace supervisor's request. From the perspective of this study, the student-trainee's engagement with the language of instructions would indicate the level of her/his interaction with workplace discourse. In terms of classroom discourse, students were asked whether the lecturer's instructions guided them in their attempts to complete a task. The questionnaire findings revealed that instructions did not always provide adequate guidelines for the task. A similar question was also addressed during workplace interviews, when student-trainees were requested to articulate their experiences with their supervisors' instructions. According to the findings, their responses to the supervisor's instructions were facilitated by the environment of the workplace, since they had access to technical data as well as the assistance of their peers in this socially-determined context. However, the unforeseen aspect of these findings was their emphasis on the prevalence of informal language in the supervisor's instructions. In fact, the overwhelming majority of respondents claimed that the supervisor's messages were invariably characterized by informal English and technical detail. In contrast, the lecturer's messages to students, according to the questionnaire findings, were typically formal with minimal technical terminology. This realization changed the interests of this study in terms of research question two, and subsequently more emphasis was placed on the implications of informal language in the workplace (see 4.4.2 i). For instance, the wording of a typical instruction may suggest a friendly request such as: "Guys, will you help us with this one?" when the pragmatic force within the workplace context could best be translated as: "Do this *now*. Your job is on the line". This indicates the possibility that the communication course should incorporate pragmatic force training into its curriculum. During the interviews, student-trainees related their awareness of the apparently light-hearted request as a command. This study takes the position that the „specialized language“ that researchers such as Iedema (2000:74) refer to while

discussing this phenomenon is part of workplace discourse, and that the student-trainee is able to interpret this „specialized language“ because he/she is a participant in the discourse community of the workplace. Therefore the structure of directives in authentic workplace settings could make a vital contribution to the communication course.

5.4 GENRE RULES

Question three of the study was aimed at discovering how the genre rules of classroom discourse are adapted when the genres are enacted within the context of the workplace. This question was included in the research because of the importance of producing documents in appropriate genres, acceptable to workplace standards, as the end-products of the student-trainee's tasks. Therefore the study sees an understanding of the genre rules of the workplace as an essential resource, and, in turn, also explores how these genre rules are addressed as part of classroom discourse practices. In order to find a perspective for describing the interactions associated with genre rules, the study adopted a view of the classroom and the workplace as activity systems. If the workplace, for instance, is seen as an activity system, then the documents would be seen as „tools“ (Paretti, 2008) mediating the messages of the task between the student-trainee and the supervisor. Therefore one should not only pay attention to the structure and form of documents, but, more importantly, how those documents can support the exchange of ideas that should be occurring in an activity system. Researchers such as Paretti (2008) regard this phenomenon as „mediated social interaction“ (2008). In this regard, the social nature of genre practices emerged strongly as a theme in the findings from observations and interviews in the workplace. Student-trainees reported activities which included consulting with supervisors and colleagues about genre rules before submitting their documents to management. However, the prevalent theme in the individual workplace interviews was the adaptation of the genre rules of the classroom. In terms of classroom genre rules, the findings from the questionnaire phase of the research revealed that students were generally satisfied that they understood the genre rules and genre practices of the classroom, and could transfer these to the workplace. This prompted the researcher to examine the materials of the communication course in order to ascertain the characteristics of genre practices to which the students had been exposed in the communication course. The course teaches students to engage in genres in spoken mode (oral presentations), and written mode (memoranda, letters and reports). For the purpose of this discussion, the written report is used as an example because of its prevalence as a genre in workplace practices. The findings from the analysis of the communication course drew attention to its emphasis on the document's "observable physical and linguistic structure" (Firth & Lawrence, 2003:3) on the one hand, and lack of authentic topics for students to explore on the other. However, it is argued in this study that the genre rules of the communication course should be sufficiently structured to enable the student-trainee to adapt them to the workplace. Furthermore, the activity system constituted by the workplace provides its own impetus for the adaptation of these genre rules. In

this regard, the workplace observations have shown that, in engineering companies, the trend is to provide company-driven or product-driven templates and software for the production of documents, which may differ from those of the communication course. Therefore this study argues that, in order for the student to transfer genre practices from the classroom to the workplace, the genre rules should be flexible, and incorporate some of the features of workplace discourse.

5.5 COMMUNITIES OF PRACTICE

Question four of the research project investigated how the environment of the workplace supports the student-trainee's development in terms of discourse as well as interactions with other trainees, supervisors, and the artifacts of the workplace. For this purpose, the study chose community of practice theory (Wenger, 1998) as a framework within which to locate the student-trainee as a possible member of the engineering community of practice. It should be pointed out at this stage that the initial reason for including Wenger's (1998) framework was primarily to outline the physical environment of the workplace as a setting for discourse practices. Instead, after the findings from workplace observations and interviews were examined, this motivation was expanded to explore the impact of the social context of the workplace on the trainee's ability to perform tasks. In this regard, Wenger's (1998) framework coincides with Gee's (1996) notion of discourse communities, and, through its association with activity systems, allows one to see the synergy between discourse practices, genres, as well as the physical and social environment of the workplace. In terms of communities of practice, Wenger (1998) calls attention to "learning as social participation". The social nature of learning in communities emerged in the findings of the workplace interviews. When asked whether they always understood their colleagues and supervisors, respondents complained about accents and pace of delivery which could impede their understanding of vital information about workplace products and procedures. Yet when the interviewer rephrased the question to explore these responses, it transpired that, in spite of the problems mentioned, they were able to make meaningful contributions towards the completion of their tasks. This led the researcher to infer that their positions as participants in the workplace community, which involved consultations and collaboration while working towards a common goal, enabled them to transcend language background as a factor in workplace tasks. One of Wenger's (1998) terms found useful in this study was „reifications". If one sees the engineering workplace as a community of practice, then reifications refer to observable entities such as products and processes which form part of the student-trainee's participation. The findings from the workplace observations in this regard highlighted the visible presence of artifacts such as models of products as well as wall charts and software depicting data about processes in the company. This information, it is argued, can facilitate the student-trainee's tasks as well as providing useful input for spoken and written genres. The communication course can make a contribution towards creating this environment, as shown in section 4.4.4. In terms of the social

underpinning of workplace activities, this study was also supported by Lave and Wenger's (1991) construct, „situated learning“ which facilitates one's understanding of how individuals learn in authentic situations, while focusing on what they bring to the learning contexts. One of the elements of this construct is „legitimate peripheral participation“ (LPP) which, in this research, refers to the student-trainee's position as a *novice* on the periphery of the community of practice, while being coached by an *expert* (the supervisor or other technicians). The relationship between expert and novice was explored during the workplace interviews, the findings of which demonstrated that, similar to classroom contexts, student-trainees were more likely to get advice and reassurance in document production from authority figures such as supervisors and technicians than from their peers. This tendency extended beyond their own departments, as they were likely to consult technicians in other departments as well. The LPP concept also becomes significant in this research when one considers, for instance, the transition of genre rules from the classroom to the workplace. In order for the student-trainee to make progress through LPP in terms of genre practices, the findings reveal that it becomes essential to provide him/her with genre rules which are recognizable to other members of the workplace community, and to ensure that the genre rules are flexible for the requirements of the community.

5.6 RECOMMENDATIONS

The communication course at Durban University of Technology offers academic English and professional language modules to faculties of Engineering and Commerce. These modules are generally taught during the first year of study, and are similar to those offered by other South African universities such as the universities of Zululand and Johannesburg. What these institutions have in common is that their communication courses are not discipline-specific. Therefore their generic materials are taught across faculties and programmes with minor adaptations based on the consultations with lecturers in specific programmes.

The current communication course has certain aspects which may not contribute towards the student's transition to the workplace, while other features could be recommended. For instance, the findings in section 4.3.1 have shown that, in terms of group tasks, the connection between workplace activities and classroom activities is not sufficiently explained in the course materials. On the other hand, similar to workplace practices, work-related genres such as oral presentations are preceded by discussions which prepare students for these tasks. However, the actual materials used in these exercises do not correspond to the socially determined motives identified in workplace communities of practice. Furthermore, in terms of genre training, the focus in the communication course is on academic tasks rather than on workplace-related tasks which may contribute towards the student's transition to workplace practices. But the training in document writing lays the basis for structuring documents in workplace genres. In this way the

communication course is part of a continuum which sees the course as the foundation for the context of the workplace.

In terms of the four communication courses investigated and compared to the current communication course in section 2.9, Figure 4 reveals that all these approaches include situated learning and genre training in their approaches. However, two of these (Kain & Wardle, 2005; and Paretti, 2008), are also based on activity theory. The course critiqued by Kain & Wardle is a multi-major course, similar to the current communication course. On the other hand, the course presented by Paretti (2008) promotes an integrated approach which sees the classroom as the project venue and the instructor as the project manager. In terms of its practices, the value of this for the current course is that it illustrates how materials from the workplace can be integrated into the classroom. This also corresponds to one of the conclusions drawn from the findings on genre rules in the workplace (4.4.3 i): the integration could take the form of a collaborative project which sees authentic products from the workplace incorporated into the classroom.

In terms of its theoretical base, however, Paretti's (2008) research has shown how activity theory provides a framework which views the classroom and the workplace as sites of activity systems. This allows one to link the activities around document production, for instance, to similar activities related to document writing in the workplace activity system. Within this framework the communication course can introduce an actual product or process from one of the engineering companies in close proximity to the institution, and build the document writing around whatever activities students perform with it. For instance, this could involve a vehicle security device or a process from industrial engineering.

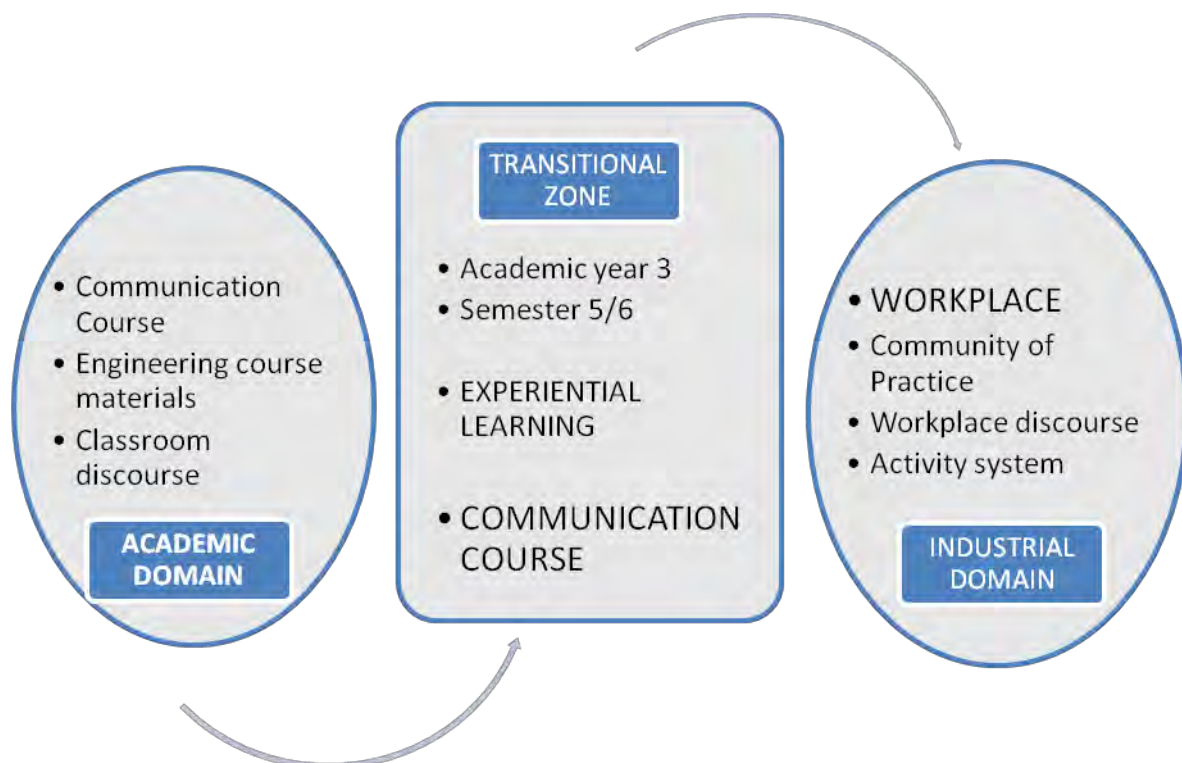
Another one of the communication courses (Pappas et al., 2004) presented in section 2.9 of this study promotes a team-teaching approach which has communication lecturers supporting engineering lecturers with technical language. Similarly, as Winberg et al. (2010) have shown from a South African perspective, communication lecturers may collaborate with engineering lecturers, for instance, so that technical writing courses are designed within the engineering discipline. In this way, students are likely to engage with authentic, discipline-specific materials while having the benefit of language instructors to guide them with technical terminology. However, as observed in section 4.4.1 of this research, the workplace community of practice acts as a catalyst for enabling student-trainees to use technical language in group tasks. Therefore the corroborative efforts of the communication lecturers and discipline specialists should take into account the social interaction which typifies these group tasks. This implies that communication lecturers as well as discipline specialists should engage with task groups so that the importance of using technical terminology as an integral part of group tasks is made explicit.

In terms of issuing instructions for group tasks as well as individual tasks, communication lecturers and engineering lecturers could possibly be guided by the way students perceive directives from lecturers and supervisors. In this regard, this study has found (section 4.4.2) that

workplace supervisors use a high volume of technical terminology as compared to lecturers, and that supervisors are likely to use informal language rather than the formal language of lecturers. Frequent visits to engineering workplaces by lecturers may contribute towards their awareness of such workplace practices for which their students are being prepared.

This study also proposes the following recommendations which may contribute towards the student's transition from classroom discourse to workplace discourse practices. Firstly, the contribution of the communication course is likely to have a better impact on workplace discourse practices if the course is located in the final academic year. The benefits could be twofold: the student could possibly have a better grasp of the technical language of the discipline in four academic semesters (two years) instead of one; and the genres taught in the communication course may have more immediacy if they are offered one semester before the student enters the workplace. If the institution offers an experiential learning programme, then the communication course could be scheduled during the last one or two semesters before the student enters the workplace. The reconfigured communication course is illustrated in Figure 47.

Figure 47: Reconfiguration of Communication Course



The thesis makes a conceptual advance in terms of re-configuring where the communication course could be located in light of the insights gained about communities of practice, genres and classroom and workplace discourse. If the communication course is placed in the transitional zone (just before the students join the workplace), the course could better equip the student to adapt to the new discourse of the workplace. Perhaps, therefore, the course could be moved to semester five so that the designers of the course can introduce more authentic artifacts and practices that students are soon to encounter in workplace practices.

Another recommendation is that the communication course could teach genre rules that are more flexible in terms of how they may be adapted in the workplace. For instance, there are various ways in which the memo (email) or report may be adapted in the workplace and perhaps these could be reflected in the course materials. Furthermore, when students are required to produce documents, these could be based on actual tasks and problems in the workplace which the co-ordinator of the experiential learning programme may possibly have access to during site visits. Also, wherever possible, attempts could be made to gain access to current software for producing documents as well as contemporary procedures and artifacts for oral presentations used in the workplace in order to better familiarize them with these features of current workplace practices.

According to the findings, student-trainees have reported the use of strategies in their interactions in the workplace as well as in the performance of their tasks. Therefore this study suggests that the communication course lecturers include strategy training as a component of the course.

5.7 LIMITATIONS

In terms of research design, the study could possibly have been enriched by interviews with communication and engineering lecturers. Although they provided course materials and had consultations with the researcher, it emerges now that the interview data could have complemented the data from the course.

Another possible shortcoming is that a more suitable software program would have resulted in more presentable graphs for the findings of the questionnaires. In terms of workplace investigations, the human resources practitioners, the de facto gatekeepers of the work space with regard to student-trainees, at times restricted access, or limited the time available to conduct research.

In terms of the methodology, the number of items in the classroom questionnaire could have been reduced so that only those questions having direct relevance for the research questions could have been included. More time could have been saved in this way. Also, the majority of the items in the workplace observations matched those of the interviews. However, the set of questions on communities of practice (research question four) did not correspond in this way. It

was fortunate that the objectives of this set of questions were reached, with the students providing the vital information.

With regard to the items involving the Likert scale in the questionnaires, there were instances where the respondents chose the neutral option, and gave negative reasons. This could have been a serious limitation. However, even though the data could be skewed in this way, the findings presented the negative responses together with the neutral choices so that, in the end, these responses were treated as negative in the analysis. In this sense, the study was fortunate in having qualitative as well as quantitative data.

The study concentrated mainly on the workplace rather than the context of the classroom. The reason is that the research emphasized the need to investigate the extent to which workplace practices could inform classroom practices in order to better prepare the student for the workplace.

Another limitation is that the researcher did not collect empirical data from the engineering and communication courses, which could have enhanced the authenticity of the findings.

5.8 FURTHER RESEARCH

Further research topics could possibly include studies on the evolution of genre rules in engineering workplaces with reference to electronic media and company software; and projects which explore an expanded view of the supervisor's directive in private and public enterprises. Furthermore, because of the constraints on the communication course and possible collaboration between staff members indicated in this study, a valuable investigation could be done in: the financial, structural and staff implications of introducing discipline-specific communication interventions in South African institutions. Also, in respect of the transition between the classroom and the workplace, further investigations could be done in facilitating more meaningful contact between academic institutions and workplaces in terms of expanding the current experiential learning system.

From a global perspective, further research into practices in the workplace could benefit from researchers such as Räisänen and Linde, while research on genre practices can build on the insights of Paretti as well as Kain and Wardle. In the South African context, studies on classroom and workplace discourse could benefit from the contributions of Jacobs and Winberg.

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APPENDIX 1

INFORMED CONSENT FORM: TERTIARY INSTITUTION

INFORMED CONSENT FORM

Faculty of Engineering

Durban University of Technology

PROJECT MEMBERS

Richard Hondy, PhD research student, Durban University of Technology
Prof. Rosemary Wildsmith-Cromarty, Supervisor, University of KwaZulu-Natal.

INTRODUCTION

Thank you for participating in this research project. The project investigates language use at university and in the workplace.

PARTICIPANTS' INVOLVEMENT

The researcher will ask you questions about language background and language used during certain tasks. Your confidentiality and anonymity are assured.

DURATION

The questions will be completed in 1 hour.

RISKS

There are no physical or emotional risks involved.

VOLUNTARY PARTICIPATION

Your participation is voluntary, and you may refuse to participate at any time. There will be no obligation to continue, and your responses will not form part of the data. They will remain anonymous.

CONSENT

I am familiar with the information above, and I agree to participate. I understand that I will have no obligation to continue if I decide to end my participation.

Participant's signature..... DATE.....

Please indicate your answer with an (X)

1. Have you been (telephonically/otherwise) adequately informed about the research?

Yes ☐ No ☐

2. Have you had the opportunity to discuss further questions with the researcher?

Yes ☐ No ☐

3. Do you understand that you are free to refuse to answer any questions?

Yes ☐ No ☐

4. Do you understand that you may withdraw from the study at any time without giving your reasons?

Yes ☐ No ☐

5. Do you understand that any information you provide (interviews, observations and questionnaires) will be treated as confidential?

Yes ☐ No ☐

6. Do you agree to take part in the study?

Yes ☐ No ☐

Signature:

Date:

Name in block letters, please:

I confirm that material from my participation can be used in the final research report and other publications. I understand that these will be used anonymously.

Signature:

Date:

Name in block letters, please:

APPENDIX 2

INFORMED CONSENT FORM: ENGINEERING WORKPLACE

INFORMED CONSENT FORM

Engineering Workplace

Manager/Supervisor/Technician/Student-trainee

PROJECT MEMBERS

Richard Hondy, PhD research student, Durban University of Technology
Prof. Rosemary Wildsmith-Cromarty, Supervisor, University of KwaZulu-Natal.

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Signature:

Date:

Name in block letters, please:

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Signature:

Date:

Name in block letters, please:

APPENDIX 3

QUESTIONNAIRE SCHEDULE

Research Project

The transition between the use of classroom discourse and workplace
discourse in an engineering community of practice

QUESTIONNAIRE

Respondents:

ND: Electrical Engineering

ND: Mechanical Engineering

ND: Electronic Engineering

ND: Industrial Engineering

Researcher: Richard Hondy

Supervisor: Professor Wildsmith-Cromarty

University of KwaZulu-Natal

- Your participation in this research project is appreciated!
- Please answer the questions in the spaces provided.

1. PERSONAL INFORMATION

1.1 Qualification (Eg.: ND: Power Engineering)	
1.2 Level (1 st year / 2 nd year, etc.)	
1.3 Place of Birth	
1.4 Age	
1.5 Year of matric exam	
1.6 Place of matric exam	

2.1 What is your **home language**? _____

2.2 List your **additional languages** in the following columns.

Arrange them in the order of your proficiency.

1.	2.	3.	4.	5.

2.3 List your use of spoken English outside the classroom as follows:

	I speak English to ... (a friend / my landlord, etc.)	Often ... seldom (once a day / twice a month, etc.)	On the following occasions (at church / on the sports field, etc.)
1			
2			
3			
4			

2.4 List your use of written English off-campus as follows:

	I write English to ... (a municipality / my landlord, etc.)	Oftenseldom. (once a day / twice a month, etc.)	The following people write English to me ...
1			
2			
3			
4			

2.5 Which language do you speak to your best friend(s)?

_____.

2.6 Do you mix your languages while talking to your friend(s)?

If so, please explain how the 'mixing' works.

--

3. The following items relate to your programme in Engineering.

3.1 Describe any technical subjects or short courses at school which may have prepared you for your course in Engineering.

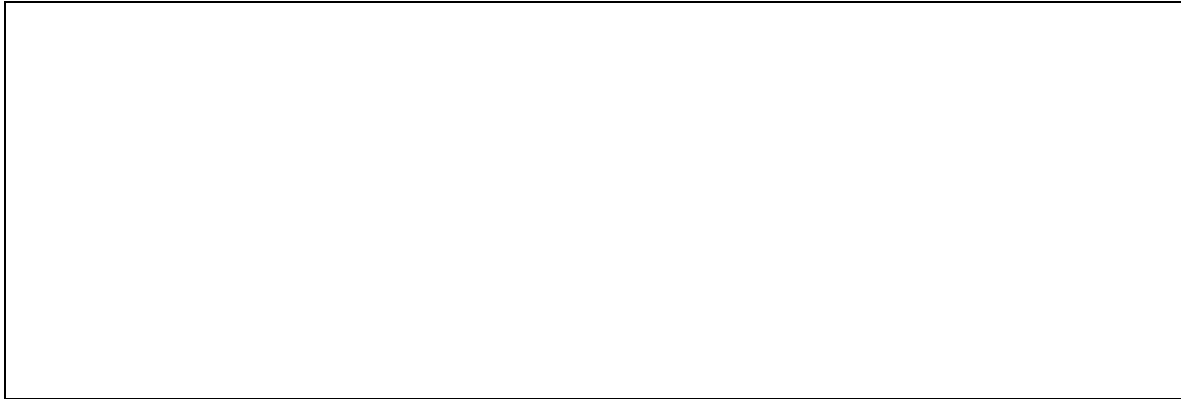
3.2 Did you have any work experience while you were at school which could help you in Engineering?

3.3 Do you have a part-time job which is linked to your programme? If so, please say what job this is.

4. The following questions relate to language in your course materials.

4.1 Which languages are used during your Engineering tutorials?

4.2 How do you and your fellow students use language during discussions on group assignments?



4.3 Do you always understand your fellow students?

Yes/No

4.3.1 Please say why you think so.



* For each of the following questions, please tick your choice on the rating scale.

* This is followed by a space which you may use to explain your choice.

4.4 The English used in my Engineering course materials provides clear guidelines for my assignments.

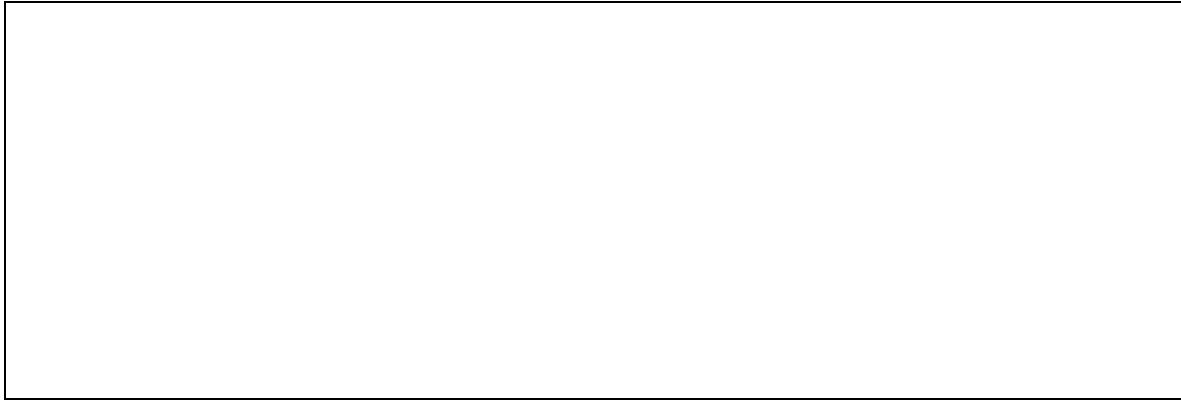
1. strongly disagree
2. disagree
3. neither agree nor disagree
4. agree
5. strongly agree

4.5 The English taught in the Communication course helps me to prepare the documents in Engineering.

1. not at all
2. very little
3. a little
4. a lot
5. a very great deal.

4.6 The English used by my Communication lecturers enables me to understand the course.

1. strongly disagree
2. disagree
3. neither agree nor disagree
4. agree
5. strongly agree.



4.7 The technical language provided in the Engineering course helps me in my group assignments.

1. not at all
2. very little
3. a little
4. a lot
5. a very great deal.



4.8 The language used in the assignment instructions provides a clear focus for my 'Oral Presentation' tasks.

	1	2	3	4	5	6	
strongly							strongly
agree							disagree

Thank you!

Ngiyabonga!

Ndiyabulela!

APPENDIX 4

OBSERVATION SCHEDULE

PhD RESEARCH PROJECT:

The transition between the use of classroom discourse and workplace discourse in an engineering community of practice

(Participants: Student-trainee, Technicians, Supervisor)

Data Collection Procedure:

Observation (Participant-Observer)

COMPANY

DATE

VENUE

ACTIVITY

PARTICIPANTS

Department	Position	1 st Language

1. technical language training in workplace group tasks

The following observations are made during the preparatory stage of a group task.

1.1 Which languages are used by members of the task group?

1.2 How does the supervisor use technical language to set the guidelines of the task?

1.3 Which technical terms do the participants use to describe the specifications of the task?

1.4 How is the trainee interacting with the specific language of this task?

The following observations are made during the on-task interactions.

1.5 Which language(s) are used by the task leader at this stage?

1.6 How is technical language used by the group members during the on-task discussions?

1.7 Does anyone offer assistance to the trainee? Indicate whether this relates to the:

dominant language.	technical terminology.
--------------------	------------------------

1.8 Does the trainee make any spontaneous contributions to the task?

--

1.9 Does the trainee consult anyone outside the task group?

--

2 the lecturer's directive and the supervisor's instruction

The following observations are made during the trainee's task performance in response to a supervisor's instruction.

2.1 How does the trainee receive the instruction?

2.2 How does the language of the instruction determine the characteristics of the task?

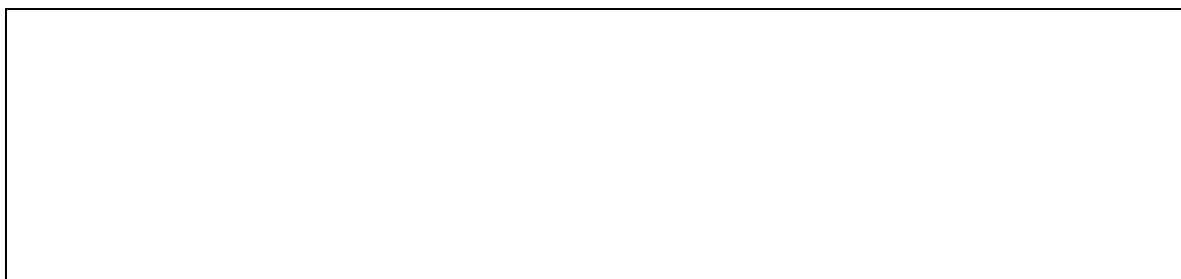
2.3 Have there been any discussions on this task within the trainee's department?

2.3.1 If so, to what extent is the trainee's task facilitated by these discussions?

2.3.2 If not, how does the trainee maintain control of the task?



2.4 How does the trainee consult with other departments?



2.4.1 Which languages are used in these consultations?



2.4.2 How do the technicians and the trainee reach consensus in terms of the original instruction?



3 genre rules maintained and/or modified in individual writing tasks


The researcher is observing the trainee's preparation of a document for management.

3.1 Which document is the trainee preparing?

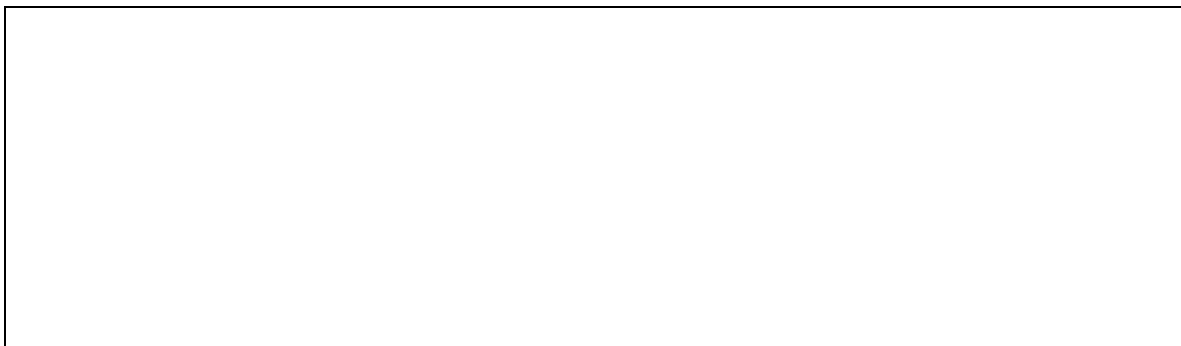
3.2 Does the workplace provide any templates or style-sheets to assist the trainee or other technicians in this writing task?

3.3 How does the trainee check the rules for writing this document?

3.4 Which software, if any, is used in the preparation of this document?

A large, empty rectangular box with a thin black border, intended for the user to provide an answer to question 3.4.

3.5 How does the trainee use language in order to integrate specifications and graphic material into the document?

A large, empty rectangular box with a thin black border, intended for the user to provide an answer to question 3.5.

3.6 How is the final draft of this document edited?

A large, empty rectangular box with a thin black border, intended for the user to provide an answer to question 3.6.

4 situated learning environment of the workplace

The researcher is observing the learning context of the trainee's induction period.

4.1 What is the dominant language of the workplace?

--

4.2 In what language do trainees address:

Other trainees	technicians	supervisors	Managers

4.3 What is the language of the wall charts and signs of the workplace?

--

4.4 Does the workplace have adequate audio-visual material for oral presentations?

--

4.5 Are there any artifacts which promote the primary products of the workplace?

4.6 Which artifacts such as computer equipment, machinery, wall charts, etc. of the workplace provide information on technical terminology and/or product specifications?

APPENDIX 5

INTERVIEW SCHEDULE

PhD Research Project

The transition between the use of classroom discourse and workplace discourse in an engineering community of practice

INTERVIEW SCHEDULE

(Respondents: Engineering student-trainees)

Note to respondents:

Thank you for agreeing to do this interview.

The purpose of this research is to investigate the transition made by a student in an Engineering faculty as s/he enters the workplace as a trainee technician. The focus of the investigation is the transition between the student's classroom discourse and the discourse of the trainee-technician's workplace.

The objective of this interview is to address specific aspects of classroom discourse practices in order to ascertain their impact on the student's capacity to interact with workplace discourse in various engineering companies.

Please indicate if you have any questions.

JOB INFORMATION

Company	Production Type	Department
Date of Appointment	Position	Line Manager
1 st Language	Other Languages	Previous appointment

1. technical language training in workplace group tasks

The following items are discussed after the completion of a group task.

1.1 Did you understand everyone in the task group?

1.2 How do you normally ask for clarity about a group task?

1.3 When did you first learn to use technical language?

1.4 How did you understand the technical language used by your supervisor and the other technicians in this task?

1.5 Do you think the supervisor and technicians understood your contributions in this task?

1.6 Do you think the activities during the group assignments in the Communication course helped you with this group task?

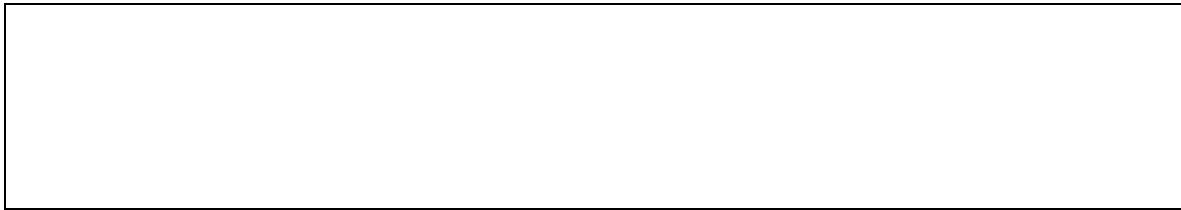
1.7 How did the technical language you learnt in the workplace help you with this group task?

1.8 Is there anything that could have helped you to contribute more to this task?

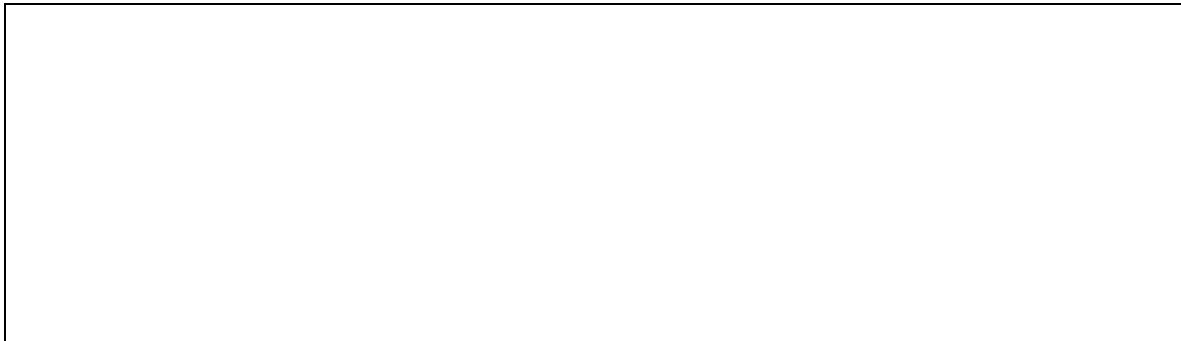
2. the lecturer's directive and the supervisor's instruction

The following items are discussed during the trainee's task performance in response to a supervisor's instruction.

2.1 Which kinds of messages do you normally receive from your supervisor?



2.2 Are there any words or phrases that you usually find in the supervisor's messages to you?



2.3 How do you normally check your understanding of these messages?



2.4 How did the language of the supervisor's message guide you to the task that you are doing now?

2.5 Which technical terms pointed you towards the specifications of this task?

2.6 Did you consult anyone to check that you were following the correct procedure?

2.7 Can you compare the supervisor's message with your Engineering lecturer's instructions for an assignment?

2.7.1 Do you find anything similar in the language used by your Engineering lecturer and your supervisor?

Engineering lecturer	Supervisor

2.7.2 Are there any differences in language that you can think of?

Engineering lecturer	Supervisor

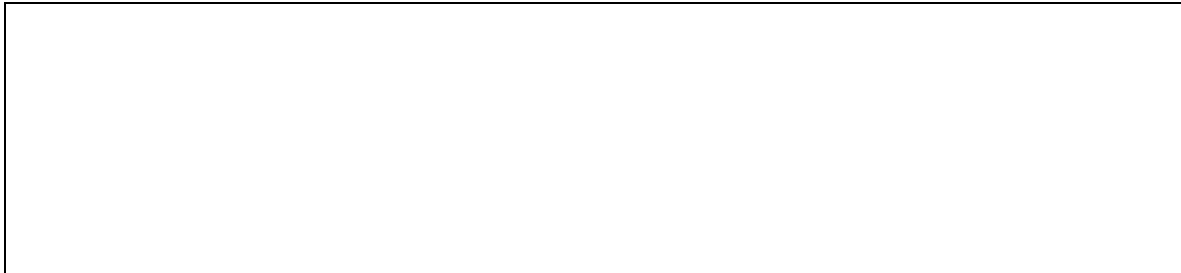
- 2.8 Think about your Engineering assignments on campus. How did you normally check if you were following your lecturer's instructions?

- 2.9 Do you think your technical knowledge from the Engineering course prepared you to understand the technical terms in your supervisor's messages?

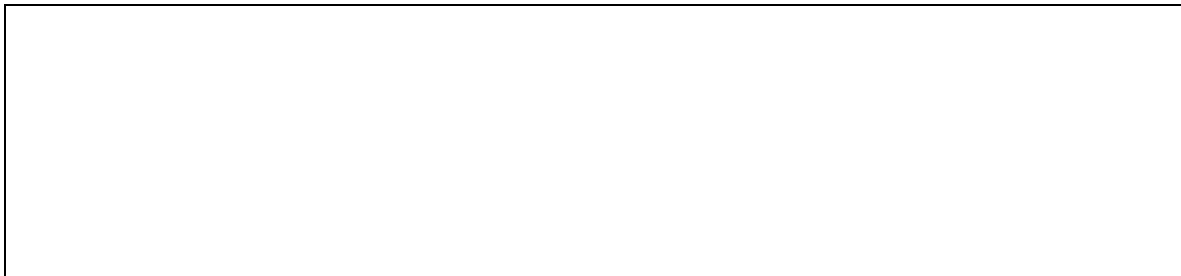
3. genre rules maintained and/or modified in individual writing tasks

The following items are discussed after the preparation of the document.

3.1 How did you learn about the language rules that apply to different documents?



3.2 Which documents do you usually prepare for management?



3.3 Tell me about the rules that you have applied to this document.



3.4 Which document writing rules did you learn in your Communication course?

3.5 How did your Engineering curriculum help you to write technical language in a document?

3.6 Which document writing rules that you learnt in the Communication course do you use in the workplace?

3.7 Have you made any changes to those rules of the Communication course here?

3.8 Which document writing rules did you only learn in the workplace?

3.9 Which of the document writing rules do you use when you send emails to your colleagues (technicians and trainees)?

3.10 Do you have any examples?

4 situated learning environment of the workplace

The researcher investigates the following 'situated learning' aspects of the trainee's induction period.

4.1 Do you always understand your colleagues and supervisors in the workplace?

4.2 Which languages are you allowed to use in the workplace?

4.3 Do you understand the information about your company's products displayed in the workplace?

4.4 Did anyone train you to use the computer to prepare documents?

4.5 Is there anything in your department that makes it easier for you to do your job?

4.6 Do you sometimes get help from other employees in this company?

APPENDIX 6

COMMUNICATION COURSE: LEARNER GUIDE



FACULTY OF ARTS & DESIGN

DEPARTMENT OF MEDIA, LANGUAGE AND COMMUNICATION

PROGRAMME: ENGLISH AND COMMUNICATION

SUBJECT Annual Learner Guide 2010

Qualification : _____
Qualification Code : _____
Subject : _____
Subject Code : _____
SAQA Credit : _____

Name of Lecturer : _____
Office : _____
Telephone : _____
E-Mail : _____
Consultation Times : _____

Head of Department : Professor P. Singh
Office : ML Sultan Campus, Mariam Bee, 3rd Floor
Telephone : 031-3736767
Fax no : 031-3736772
Programme Leader : Ms T. Herd
Office : S3 Level 1, Steve Biko Campus
Secretary : Mrs A. Thomas
Office : S3 Level 1, Steve Biko Campus
Telephone : 031-3732823
Duration of Course : Annual (2 Semesters)

1. WELCOME

Welcome to the Communication course, which is geared towards enhancing your professional communication skills. While this course is run for a number of different diploma subjects, it is tailored to your eventual functioning in the workplace, and you will be involved in career-related exercises, role plays and projects for the practical work. You will find introductory information (as well as the practical theory of professional communication) in the Course Notes. While you will need to know and understand the theory in the Course Notes, you will need to be able to apply what you know to actual workplace situations, and you will also need to read other materials (whether in the news media, the library or the Internet) to supplement the information in the Notes, and to do some basic research in career-related projects for your written and spoken assignments. The purpose of this Learner Guide is to map out what it is that you will need to be able to do in order to pass this course (the learning outcomes), and to explain how your developing communication abilities will be tested (the assessment methods and criteria). Your progress in this course will be measured by continuous assessment, which means that you will have to work hard at mastering various skills and competencies throughout the year. According to student evaluations in 2009, staff have taken into account the needs and recommendations of students.

IT ALSO MEANS THAT TESTS AND ASSIGNMENTS HAVE THE FORCE OF EXAMINATIONS, AND THAT EXAMINATION RULES FOR PROCEDURE AND ATTENDANCE WILL APPLY.

2. THE PURPOSE OF THIS SUBJECT:

Communication is fundamental to your understanding and learning. Your work is evaluated through your ability to communicate and the essence of effective communication is clear thinking. Generally, people who have good communicative skills are likely to be regarded as more credible, more confident, more competent and more dynamic.

3. PRE-REQUISITES:

To enter this subject, learners will need to have conversational fluency in English and to be able to write school-type compositions and letters (business letters as well as friendly letters) in English. You should also be able to read and understand text books in English at National Senior Certificate level, and be able to give a short talk of about 3-5 minutes duration. You need to realize that communication skills are developed out of what you do, and cannot be transferred straight from the text book or the lecturer into your head. There are some basic precepts to be studied, but this is *not* rote learning, and you will be asked to show that you understand and can apply any theory which you study to a variety of work situations. If your English is not very fluent, you may need to take extra lessons in English.

4. RECOGNITION OF PRIOR LEARNING (RPL)

If you have already completed and passed an English or Business Communication course at first year (tertiary) level, please make an appointment with the Programme Leader or your lecturer and bring proof of certification as well as the syllabus, so that it can be decided whether you qualify for an exemption. Note that prior completion of a semester course will not be accepted as an exemption for an annual course.

5. LEARNING OUTCOMES

The learning outcomes for the Communication course are given below. Because Outcomes-based Education (OBE) is full of jargon (specialist slang), and jargon is a potential barrier to communication, we include a "lay" translation in the second column:

6. Specific Learning Outcomes	What does this mean?
1. Learners are able to work effectively in groups so as to complete career-related tasks effectively, using: 1.1. group task functions 1.2 group maintenance functions 1.3 group leadership functions	This means you need to be able to work with other students in a group: get the job done, keep the other group members happy, and show leadership skills where needed.
2. Learners are able to: 2.1 identify 2.2 define key concepts of Communication Theory.	When we talk about "audience analysis", for example, you need to know we're dealing with "demographics" – you also need to be able to give a definition of the term "demographics" (you will find definitions in the Course Notes).
3. Learners are able to apply key concepts of Communication Theory in work-related scenarios.	It's no use just learning the definitions off by heart: you also need to know how the theory applies to work-related situations.
4. Learners are able to engage in work-related com-	You need to be able to write professional-

6. Specific Learning Outcomes	What does this mean?
<p>munication genres in the following communication modes:</p> <p>4.1 written (e.g. letters, memoranda)</p> <p>4.2 spoken (e.g. talks, meetings)</p> <p>4.3 graphic (e.g. graphic materials supporting reports or oral presentations).</p>	<p>looking memos, letters and reports. You need to be able to discuss work-related issues in meetings, and to present a formal talk. You need to be able to use tables and diagrams in written and spoken reports so that you communicate as clearly as possible. You also need to be able to interpret writing, speech and graphic communication correctly.</p>
5. Learners are able to solve the kinds of problems they will experience in work-related communication.	These may be communication problems or work-related problems (e.g. labour disputes).
6. Learners are able to investigate a complex, career-related task, come to conclusions, and make decisions on the basis of the findings of their investigation.	You are going to have to do some research into a career-related topic as the basis for your formal talk and written assignment.
7. Learners are able to assess the quality of their own and other students' communicative performance.	You need to be able to judge how well you are doing, and to get feedback from others, too.

7. ASSESSMENT CRITERIA

OBE puts the emphasis on students knowing right at the beginning of the course how their performance is going to be judged. This means that you can work systematically towards achieving the course outcomes because you know in advance how your work is going to be assessed. As with the outcomes, we include a "lay" explanation so that you are not baffled by the somewhat contrived language of OBE:

Assessment Criteria	What does this mean?
<p>1. The following functions are performed so as to complete career-related tasks according to given criteria:</p> <p>1.1 group task functions</p> <p>1.2 group maintenance functions</p> <p>1.3 group leadership functions</p>	<p>We judge your group performance by how well your group gets a task done. We can't give you a mark for this directly, but effective group work means you will hand in better assignments: you obtain marks indirectly for group work through your assignment marks.</p>
<p>2. Key concepts of Communication Theory, as set forth in the Course Notes, are:</p> <p>2.1 identified</p> <p>2.2 defined</p>	<p>You will obtain marks for identifying key terms in Communication Theory, and for defining these terms (or showing that you understand their meaning by the way you use them).</p>
<p>3. The relevant concepts are applied to explain communicative functioning in work-related scenarios.</p>	<p>You will obtain marks for using the theory to explain how people communicate in work situations.</p>
<p>4. Criteria set down for communicating effectively in work-related genres, including criteria for production and interpretation, in the following modes are fulfilled in practice:</p> <p>4.1 written</p> <p>4.2 spoken</p> <p>4.3 graphic</p> <p>Genre conventions and procedures in the above modes, as set forth in the Course Notes, are identified and applied correctly in work-related scenarios.</p>	<p>You will find the standards for good written and spoken communication set out in some detail in the Course Notes. If there are specific requirements for individual assignments, these will be made clear in advance. We will test your knowledge of the various conventions for speech, writing and graphic communication in exercises, role plays, assignments and formal tests. We will also test your ability to interpret speech, writing and graphic communication.</p>
<p>5. Problems are solved so as to complete career-related tasks according to given criteria: students will be guided by problem-solving rubrics, but may use whatever methods work for them.</p>	<p>Your problem-solving skills are demonstrated by how well you perform a variety of tasks, ranging from project tasks to formal test questions.</p>
<p>6. Evidence of career-related research is apparent in the content of the formal written and oral submissions: sources of information are cited, conclusions drawn are logical, and decisions made are feasible in the context of the given task.</p>	<p>We need to see evidence of research in your written assignments and talks. You also need to mention your sources of information, and work with the information – not just "dish it up" straight out of a book or the Internet.</p>
<p>7. Self- and peer-assessment are such so as to lead to successful completion of work-related tasks.</p>	<p>We will monitor your self- and peer- assessment, as we believe it helps you to succeed at your course work and on the job.</p>

8. EMBEDDED KNOWLEDGE (INDICATIVE CONTENT)

The above outcomes will be integrated into the course work, which follows the usual syllabus items of the Communication course ("indicative content" in OBE terminology). You will be issued with a weekly schedule for Semesters 1 and 2, showing how the syllabus items will be dealt with. All English and Communication lectures set down on the timetable for your Diploma or Programme are compulsory.

9. CRITICAL CROSS-FIELD OUTCOMES

The seven critical outcomes are given below. These outcomes need to be covered in academic work throughout the whole diploma course, and go across various fields, as they involve competences which are essential for real-world functioning in both your professional and private lives. The Specific Learning Outcomes (in Item 6. above) which are related to the cross-field outcomes are placed in brackets after each outcome.

Learners are able to:

- identify and solve problems in which responses show that responsible decisions, using critical and creative thinking, have been made. [5]
- work effectively with others as a member of a team, group, organisation, community. [1]
- organise and manage themselves and their activities responsibly and effectively. [1, 7]
- collect, analyse, organise and critically evaluate information. [6]
- communicate effectively using visual, mathematical and/or language skills in the modes of oral and/or written presentation. [2, 3 & 4]
- use science and technology effectively and critically, showing responsibility towards the environment and health of others. [5]
- demonstrate an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation. [5, 6]

10. LEARNING AND TEACHING STRATEGIES

Learning is carried out through a combination of formal lectures and integrated project work, carried out in small groups. Good attendance is essential in order to gain the benefit of experiential small-group learning. Students need to show initiative, to pull their weight in groups, and put in after hours work to complete projects. The plus side is that the work is career-related and students have some latitude in choosing projects which relate to their specific career goals and aptitudes. The details of project work will be clearly explained in project handouts.

11. ASSESSMENT METHODS

Assessment is by continuous assessment: this means that there is no Final Examination, and that you will be submitting work for assessment throughout the year. Many of the most important skills, such as effective group functioning or research skills, do not lend themselves to formal testing. Much of what you do in the course of the year will be assessed informally so as to improve your performance in the tests and assignments. Abilities such as effective group functioning or research skills will be assessed indirectly in terms of the quality of group projects or the content of your talks or assignments. A record will be kept of your attendance and performance at informal tasks, and this will be consulted should your final marks be on the borderline between a pass and a failure: a student who does not attend and does little or no work in the course of the year, and then performs badly in the formal tests and assignments, will not be considered to have fulfilled the requirements for a pass. The tasks you do in lectures are geared to lead up to the formal assignments and tests, which are as follows:

ASSESSMENT	MARK	%
Control Test	1	25
Written Assignment	2	25
Control Test	3	25
Portfolio	4	25
FINAL MARK:		100%

Control Test 1 will test your knowledge and practical application of Communication Theory, and Control Test 2 will test your knowledge and practical application of meetings procedure, and the conventions of business correspondence. Be advised that control tests will test your understanding of the various concepts, your close reading skills and logical thinking: they are *not* tests of "rote learning", although you must obviously know your practical theory well to be able to apply it. The written assignment must be on career-related topics/projects which you have researched. You will be allowed to hand in rough drafts of your written assignment until the due date, but will not be allowed to re-submit assignments.

The Portfolio is a compilation of work assigned in class by your lecturer. Detailed explanation of the Portfolio will be given by lecturers in class. Keep your tests in case there is any query about the marks.

ALL ASSESSMENTS ARE COMPULSORY. STUDENTS MUST ATTEMPT ALL 4 ASSESSMENTS IN ORDER TO PASS THE COURSE.

12. SCHEME OF WORK

See the semester sheets for the scheme of work, including test dates and due dates for assignments.

13. READINGS

Please consult the Course Notes and your lecturer for recommended readings.

14. ADDITIONAL RESOURCES

There are videos (e.g. Business Letters, Meetings) as well as online resources in the Library.

15. CLASS RULES AND POLICIES

ATTENDANCE AT LECTURES

Lectures are compulsory, and work covered is NOT repeated for the benefit of individual students who may have been absent. Registers which are circulated during lectures must be signed. Lecturers may be consulted during consultation times if you are experiencing any problems. **Where a student is absent from lectures, it is the responsibility of the student to inform the lecturer on his/her return. Students are required to catch up with work that was missed.**

CONSULTATION

Lecturers are available for consultation during consultation times: you will be notified of these times by your lecturer. Please use this opportunity to discuss issues in the course that may be bothering you. All enquiries should be directed to the lecturer concerned. In the absence of the lecturer, urgent enquiries may be directed to the departmental secretary.

GROUP WORK

When you are expected to work in pairs or groups, it is the students' responsibility to ensure that all members of the pair or group work equitably to perform the required tasks. Once again, if you are experiencing serious problems, you may negotiate with the lecturer, before the due date of the task.

PUNCTUAL SUBMISSION OF ASSIGNMENTS

One of the most important characteristics of tertiary education is that of preparing students for the work environment. We all have to produce work on time, whether for colleagues, clients or people in authority. Making deadlines is therefore characteristic of the work environment and the Durban University of Technology. While you may be rewarded at work with money and promotions, at the Durban University of Technology you are rewarded with marks. Late submission or lack of preparation for written assignments will result in the loss of marks. Remember, you may always negotiate with your lecturers in advance if you are experiencing problems.

WRITTEN TESTS/ASSIGNMENTS

Every candidate must ensure:

- That s/he arrives on time for all tests
- That no study material is on their person
- That s/he hands the answer book to the invigilator
- That the following details appear on the answer book/pages:
 - Surname
 - First name/s
 - Registration number
 - Diploma
 - Level of study
 - Name of subject
 - Lecturer's name
- That the test register is signed.

ABSENTEEISM

Absenteeism is condoned only:

- In the event of illness, in which case you are expected to produce a Medical Certificate.
- In the event of bereavement, in which case a sworn affidavit is required.

When absenteeism is unavoidable, it is the student's responsibility to inform the lecturer **within one week** of a missed test/assignment/oral/task. **NB: The onus is on the student to inform lecturers if tests or assignments were missed. Do not wait for your lecturer to contact you.**

ACADEMIC SUPPORT

The Durban University of Technology provides assistance for students who are experiencing difficulties with tertiary studies. Students are encouraged to approach any of the following:

- Subject lecturer/s
- HOD Media, Language and Communication
- Student Counselling Department
- Department of Educational Development
- Financial Aid

While the above people and departments can provide help, the onus is on the student to recognize that s/he needs help and to seek the help that is available.

16. PLAGIARISM

By "plagiarism" we mean the copying of other people's work without due acknowledgement. You are obviously allowed to collaborate with other students during group assignments, but you are not allowed to pass off another student's work as your own in assignments or tests. When you mention, refer to, or cite another person's work you need to give the person's name, the date of the work, and list the relevant book/article/conference paper in a Bibliography. Copying electronic text off the Internet and passing it off as your own is also a form of plagiarism: be warned that it is as easy for the lecturer to detect this as it was for you to do it! Any work which is plagiarised will be given 0% and the student concerned will be referred to the HOD for disciplinary action.

17. INDUSTRY/COMMUNITY/OCCUPATION-RELATED INFORMATION

This department collaborates wherever possible with your diploma department, and strives to set project work which is industry related.

YOU ARE URGED TO MAKE YOURSELF FAMILIAR WITH THE RULES OF THIS UNIVERSITY, AND THE RULES OF THE DEPARTMENT IN WHICH YOU ARE REGISTERED.

ENGLISH AND COMMUNICATION



DURBAN
UNIVERSITY of
TECHNOLOGY

Annual Programme

SEMESTER 1 - 2010

PLENARY		APPLICATION
1. 1 Feb – 5 Feb Annual and semester lectures commence	Introduction to Course, Learner Guides, Course Notes and Portfolios	Class Division
2. 8 Feb – 12 Feb	Communication Process, Transactional Model	Comprehension on Communication Theory
3. 15 Feb – 19 Feb	Communication Process – Types of Communication	Exercises on Communication Theory
4. 22 Feb – 26 Feb	Barriers to Communication	Exercises on Barriers to Communication
5. 1 Mar – 5 Mar	Listening Skills	Aural Comprehension
6. 8 Mar – 12 Mar	TEST 1	TEST 1 Language Exercises
7. 15 Mar – 19 Mar	Non-Verbal Communication	Non-Verbal Communication Exercises
8. 22 Mar – 26 Mar End of 1 st term	Intercultural Communication	Intercultural Communication Exercises
29 Mar – 5 Apr	UNIVERSITY VACATION	
9. 6 Apr – 9 Apr Beginning of 2 nd term	Intercultural Communication	Intercultural Communication Exercises
10. 12 Apr – 16 Apr	Business Correspondence	Business Correspondence Exercises
11. 19 Apr – 23 Apr	Business Correspondence and E-mail	Business Correspondence Exercises
12. 28 Apr – 30 Apr 26 Apr – University Holiday 27 Apr – Freedom Day	Report Writing – Process, Structure and Conventions	Assignment Question – Topic, Methods and Assessment Criteria
13. 3 May – 7 May	Report Writing – Process, Structure and Conventions	Report Writing – Assignment (Students & Lecturer work on the Assignment)
14. 10 May – 14 May	Report Writing – Graphics and Referencing	Report Writing Assignment (Students & Lecturer work on the Assignment)
15. 17 May – 21 May	Small Group Communication	Application of Small Group Communication
16. 24 May – 28 May	Leadership and Problem Solving	SUBMIT REPORT ASSIGNMENT Problem Solving Exercises
17. 31 May – 4 June	Register and Jargon	Register and Jargon Exercises
18. 7 June – 9 June End of 2 nd term	Telephone Etiquette	Telephone Etiquette Exercises

ENGLISH AND COMMUNICATION



D U R B A N
UNIVERSITY of
TECHNOLOGY

Annual Programme

SEMESTER 2 - 2010

PLENARY

APPLICATION

1. 13 July -16 July Annual lectures commence	Meetings – Introduction, Types and Procedure	Meetings Terminology Worksheet
2. 19 July – 23 July Semester lectures commence	Meetings – Introduction, Types and Procedure	Exercises on Meeting Documentation – Notice and Agenda
3. 26 July – 30 July	Meetings – Documentation: Notice and Agenda	Minute Writing Exercises
4. 2 Aug – 6 Aug	TEST 2	TEST 2 Students submit Portfolios
5. 10 Aug – 13 Aug 9 Aug - National Women's Day	Ethics and Professionalism in the Workplace	Ethics and Professionalism Exercises
6. 16 Aug – 20 Aug	Oral Communication – Individual Presentations	Oral Communication Exercises
7. 23 Aug – 27 Aug	Oral Communication – Interviews	Interviews
8. 30 Aug – 3 Sept	Oral Communication – Group Discussions	Group Discussions
9. 6 Sept – 10 Sept End of 3 rd term	PREOO 1 and 2 Course Evaluation	Course Evaluation
13 Sept – 17 Sept	UNIVERSITY VACATION	
10. 20 Sept – 23 Sept Beg. of 4 th term 24 Sept – Heritage Day	Portfolio Reviews	Portfolio Reviews
11. 27 Sept – 1 Oct	Portfolio Reviews	Portfolio Reviews
12. 4 Oct – 8 Oct	ANNUAL EXAMS COMMENCE	
13. 11 Oct – 15 Oct		
14. 18 Oct – 22 Oct		
15. 25 Oct – 29 Oct		
16. 1 Nov – 5 Nov		
18. 8 Nov – 12 Nov		
19. 15 Nov – 19 Oct		
20. 22 Nov – 26 Nov		
21. 29 Nov – 3 Dec		
22. 6 Dec – 10 Dec		

APPENDIX 7

REPORT: EXAMPLE OF INSTRUCTION

Hi RICHARD

The instruction we gave were:

REPORT TOPIC

You are required to investigate the career opportunities in your field of study, both in South Africa and overseas.

Guidelines:

1. Use at least three different types of data collection (written up in your procedure) to obtain this information.

Possible sources of information:

- Contact a local company to assist you with information.
- Use internet.
- Newspapers.
- Student Counseling/Co operative Educational Department
- Recruitment agencies
- Staff and senior students on campus.
- This is a group assignment 4 or 5 per group

Format: Formal schematic report on your course notes book

- Cover page: including title, group member's full names and student numbers
- Terms of Reference
- Procedures
- Findings
- Conclusions
- Recommendations
- Appendix: for graphic information and questionnaires.

NB; All REPORTS MUST BE WORD PROCESSED(12)POINT). MARKS WILL BE DEDUCTED FOR POOR LANGUAGE USAGE.

I hope this will help you, we teach them how to write a report first theoretically and show them a sample of a report.

Regards



APPENDIX 7.1

REPORT: GROUP ASSIGNMENT

Communication skills

REPORT ON AN INVESTIGATION INTO CAREER OPPORTUNITIES IN ELECTRONIC ENGINEERING

NAME OF GROUP : BEAUTIFUL EAGLES

GROUP MEMBERS

<u>SURNAME</u>	<u>INITIALS</u>	<u>STUDENT NO</u>	<u>SIGNATURE</u>
----------------	-----------------	-------------------	------------------

56% %

- weak grasp of language and its use
- structure implimented well.
- weakens in 4 and 5 - resorts to repetit

REPORT ON AN INVESTIGATION INTO CAREER OPORTUNITIES IN ELECTRONIC ENGINEERING

1. TERMS OF REFERENCE

On the 26th of february 2010 , communication skills lecturer Mr Swart required an invetigation into career opotunities in the field of electronics engineering . The report was to be handed in on 26th of march 2010.

2. PROCEDURE

- 2.1 Questionnaires were handed out to Durban University of Technology staff and from deffent companies who have more knowledge about the field of electronics engineering .
- 2.2 An inteviu was conducted with Sthembiso Vilakazi who is the senior engineer.
- 2.3 Information was researched from Sunday Times and Sunday Tribute.
- 2.4 Information was researched from internet.

3. FINDINGS

3.1 Questionnaires

- To be a technician you need to have a three years diploma and an experience of two years
- To be profession engineer you need to have a B-tech and you need to have at least three of experience in South Africa but in other countries you need to have 5-6 years of experience.
- There are many companies that need electricians and technicians, companies like Elovo, Mondi, Eskom, Telkom etc.
- When you have B-Tech or M-Tech you get a job in senior position, earn more salary and you need to be more responsible.
- To be promoted in senior position you need to be a person with more experience at least two years.
- Most engineers earn salary of R17 000-R22 000 — ? what ?
- An engineer need to have a driver's license because engeneers job needs you to trave.l

3.2 INTERVIEW

— consider using a graph.

- For a person to become an engineer he/she must have BSC degree
- Experience of more than two years needed
- Mondi paper provide in-service training for students
- Mondi salary range R17 000-R22000 *monthly*
- This company requires driver's license
- In this company u can work as maintenance specialist or specialise in designing and costing.

3.3. NEWS PAPER

- You must have BSC engineering (electronic) degree from university accredited by the council on higher education and u must have a valid code EB driver's license.
- You must have at least 2 years preferred 3 years relevant experience.
- To be a professional engineer, you need to pass specific test set by the department
- You need to have 5 years relevant experience

3.4. INTERNET

- To be an engineer you generally need a bachelor's degree from accredited university.
- Most of companies require driver's license. *why?*

4. CONCLUSION

- For a person to become a professional engineer, you need to have BSC degree, B-tech and M-tech and you must have more than two years experience.
- Usually here in our country (South Africa) engineers salary ranges from R7 000 to infinity, depending in different companies.
- Job opportunities in engineering are maintaining operation, installing, designing circuit, planning, costing and lecturing etc...
- Most of companies require driver's license.

*pure Repetition
of findings*

5. RECOMMENDATION

- In order to earn a good salary and hold a position, you must further your studies.
- Driver's license is important
- Experience is important in any company.

APPENDIX 7.2

REPORT: GROUP ASSIGNMENT

FIVE STARS

ELECTRICAL ENGINEERING (L/C)

CAREER OPPORTUNITIES FOR ELECTRONIC ENGINEERS

Part uses sketching
well.

68%

- language use
is sketchy,

readable text but

badly edited.

- conclusions resemble

ASSESSMENT SHEET FOR REPORTS : 2010

ELECTRICAL ENGINEERING

DIPLOMA: (LIGHT CURRENT)

DATE: 16-04-10. MARK: _____

COVER PAGE

Yes No

Are group details such as names, course and student number included?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the title sufficiently detailed?	<input type="checkbox"/>	<input type="checkbox"/>

TERMS OF REFERENCE

Yes No

Does this section contain the background to the report and a summary of the topic?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is information included on the purpose of the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is information included on who set the report, due date etc?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

PROCEDURE

Yes No

Has each method of data collection been given a separate number, and is this information correctly numbered?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Have enough methods of data collection been used and correctly listed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are important details such as interviewee's names and dates of interviews given?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

FINDINGS

not strictly necessary

Yes No

Does the information follow the same sequence as the Procedure?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is information sufficiently detailed and easy for the reader to make sense of?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has the past tense been used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

CONCLUSIONS

Yes No

Do these follow logically from the Findings?	<input type="checkbox"/>	<input type="checkbox"/>
Have general statements concerning the main points been made?	<input type="checkbox"/>	<input type="checkbox"/>

RECOMMENDATIONS

Yes No

Have realistic suggestions been made?	<input type="checkbox"/>	<input type="checkbox"/>
Do these follow logically from the Conclusions?	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX

Yes No

Has a bibliography been included?	<input type="checkbox"/>	<input type="checkbox"/>
Have graphics, questionnaires and evidence of research been included?	<input type="checkbox"/>	<input type="checkbox"/>

GRAMMAR AND LAYOUT

Yes No

Is the report well presented?	<input type="checkbox"/>	<input type="checkbox"/>
Is the grammar and spelling correct?	<input type="checkbox"/>	<input type="checkbox"/>

GENERAL COMMENTS : _____

1>TERMS OF REFERENCE

good 'except for the blanks

It has been said that electronic engineering as many career paths that electronic engineers can fall into. We students of students of DUT have been asked to find some of the job opportunities in the electronic field by _____. This will allow for electronic engineers to know what types of field they can get into and what some of the best career paths are. This investigation was given to us on the _____ and was said that it should be reported back on the _____.

2>PROCEDURE

2.1>Two interviews was carried out, one to an electronic engineer (Heston Govender) who as graduated in the year 2003 and the other to an s4 electrical (L/c) engineer student (Sanjief Singh).

2.2>Information gathered from the internet based on the report

2.3>Five questionnaires were handed out. Most of them to graduated students who chose an engineering faculty and the rest to those who are completing their final year of an engineering faculty.

2.4>An electronic company by the name of EMCOM South Africa was telephoned and interviewed. (this call was recorded).

3>FINDINGS

3.1>Interviews

3.1.1>Heston Govender stated that there are many career paths when it comes to any type of engineering. He also said that there is a need for electronic engineers in south Africa and through out the world. The reason south Africa is lacking electronic engineers , is because our engineers in south Africa tend to move overseas to earn more, which leaves south Africa in demand for electronic engineers. He also says that becoming an engineer is hard work which ,so people tend to not to become engineers. Heston works for multichoice where he designs decoders. he says there is a demand for electronic engineers in is company.

Good Finds

3.1.2> Sangiief Singh a student of Durban University of Technology also stated that there are many career opportunities in the electronic engineering field. He says that if you want to be a successful in life as an engineer, you should go for either electronic engineering or mechanical engineering. Eskom is in demand for electronic engineers , and other big companies such as Toyota etc.

3.2>Information from internet

3.2.1>The internet shows that there are countless job opportunities in the electronic engineering sector. Career paths such as sales engineering, principal engineering which deals with electronics, support technician ,production engineer management and many others. These are available both in overseas and in south Africa. The main factor of the engineering faculty is the PAY. The web shows that an engineer min salary can be up to 25000, and will increase when become more experience in the trade. There is also benefits such as car allowance, housing allowance, medical aid and so forth.

3.2.12>The internet shows that south Africa as a poor pass rate in colleges when it comes to electronic engineering. By this poor pass rate leaves more jobs available for electronic engineers, which entails that finding a good job after graduating becomes easy.

3.3>Response from questionnaires

3.3.1>The questionnaires showed that electronic engineering is on of the most common faculty where career choices are open.90% of the people who answered a questionnaire stated that electronic engineering as a lot of jobs available once graduated.

3.2.2>The career opportunities people went for was Toyota and Eskom Mainly. Some also mentioned becoming electronic lectures for universities and colleges.

3.4>Response from EMCOM south Africa

3.4.1>Kevin Barker from EMCOM an electronic engineer responded that there are career paths in engineering, and this depends on the type of engineering one is doing or going to do. has he being an electronic engineer, he says that there are multiple career paths in the electronic field. the major sector in the electronic field as to deal with communications ,because the use of wireless technology is increasing everyday. Big companies such as

Telkom, MTN, Vodacom, CellC are all in demand for electronic engineers. The problem in electronic engineering is the lack of engineers.

4>CONCLUSION

4.1>The career opportunities for electronic engineering is countless. Companies such as Eskom and Toyota and multichoice are in desperate need of electronic engineers. The reason for the need is electronic engineers tend to leave south Africa and move overseas where they get better benefits.

4.2>Electronic engineering is not a limited field. It provides many job opportunities to those who graduate as electronic engineers. The salary of becoming an electronic engineer is well above average pay through out the world. Colleges as a very poor past rate when it comes to electronic engineering, therefore increasing the career opportunities .

4.3>Most people in the electronic field are looking for career paths where the money is good, the work is not stressful and they are taken care of by the company. Becoming lectures in universities and colleges was another career path for some electronic engineers.

4.4>The most convincing career path in the electronic field is a path in communications. Telkom ,MTN and all the other types of communication companies are in great demand for electronic engineers.

5>RECOMMENDATIONS

5.1>Eskom and Toyota are big companies in south Africa. These career paths would be ideal for electronic students to focus on. To ensure a secure job as an electronic engineer contacting such companies in a early stage Is vital.

5.2>In order to choose a career path, one should look at the benefits and then make a decision on what they plan to get into. Taking salary into consideration is very important when choosing a career.

5.3>Becoming lectures of electronic engineering in universities and colleges are not a very good option . firstly the years to complete your studies is more than usual and the salaries are not up to average when it comes to electronic engineers.

job satisfaction?

5.4>Communications is the best way to go when it comes to electronic engineering. In this field there is a need for electronic engineers , so by making this your career choice will benefit you in many ways.

Date : 16 March 2010

Signed :

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APPENDIX 7.3

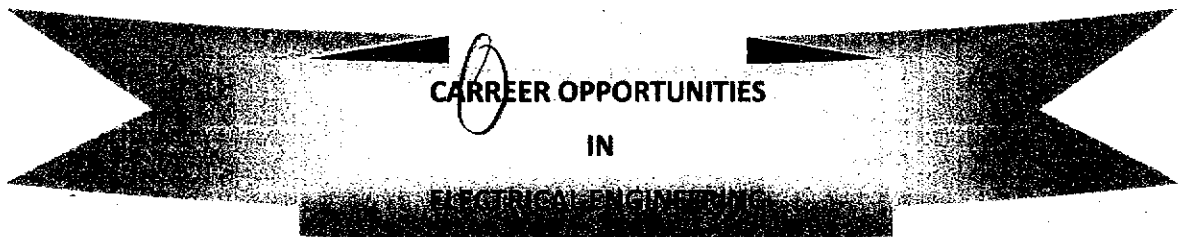
REPORT: GROUP ASSIGNMENT



Faculty of Engineering and the built environment

Department of Electrical Engineering

Communication skills' Report Assignment



Group members' names

Student numbers

All students of S1 electrical engineering light current

Lecturer's name:

March 2010

- Very good report,
demonstrating a
clear understanding
of the assigned
task:
84 %

1. TERMS OF REFERENCE

On the 23 February 2010, Mrs. T.P. NZUZA requested us to investigate in groups of five members and to write a report on the career opportunities in electrical engineering using at least 3 sources of information for the purpose to get informed on what we will be facing after campus.

The report is to be submitted on the 26 march 2010.

2. PROCEDURE

2.1. On the 22 march 2010, an interview was conducted with Mr. THOLUMUSA NGEMA from ESKOM/SPRINGFIELD. Refer to appendix 1.

2.2. A questionnaire was handled on the 23 march 2010 to Mr. BEKOKA BOTOMBA JULES who is foreman at CPS-PROJECTS, a company located at TRANSNET (PIER1) in Durban Harbour. Refer to appendix 2.

2.3. Some researches were done in particular sites on the internet. Refer to appendix 3

3. FINDINGS

3.1. Comment from Mr. THOLUMUSA NGEMA

- 3.1.1. Electrical engineers can work in many kind of industries such as automobile, robotic, telecommunication, radar and navigation system, medical equipment.
- 3.1.2. They work in offices, labs, industrial plants. Many work normally forty hours per week and can expect a salary starting from R 10,000 and above depending on the acquired experience.
- 3.1.3. An electrical engineer should be creative, curious, logical, detail-oriented, and able to work as part of a team and must have good communication and computer skills.
- 3.1.4. According to Mr. THOLUMUSA, the demand for more electrical engineers will grow with the creation of more devices.

this is excellent

3.2. Summary of Mr. BEKOKA BOTOMBA JULES response to questionnaire

- 3.2.1. Jobs for new applicants are advertised on news papers and through agencies.
- 3.2.2. Electricians work as a team; they report to the foreman in case of any problem and the foreman analyses and give them instructions.
- 3.2.3. The most important challenge in this field is the fast progress of the technology which is forcing engineers to keep upgrading themselves.
- 3.2.4. The skills required for an engineer are: commitments, goal achievement, respect of engagement, soberness, open minded.
- 3.2.5. Only the best are kept in any project.

3.3. Information from the internet

- 3.3.1. Electrical engineering is a profession that uses science, technology, and problem-solving skills to design, construct, and maintain product, services, and information systems. It is divided into three branches which are electrical, electronics, and computer engineering. And each branches as engineers, technologist, and technicians.
- 3.3.2. Many companies make job offers through the internet. Refer to Appendix 3 and to see examples of such jobs offers find through the internet.
- 3.3.3. Electronics field include many possible careers. But the most high paying ones requires higher education. Three of the highest paying careers in electronics field are electronic repairers, electrical and electronic drafters and electronic engineers.
- 3.3.4. Electrical engineers usually work thirty to forty hours a week, but they may have to work night shift, overtime or even on weekends.
- 3.3.5. In addition to the solid technical background, employers look for qualities such as integrity, ambition, drive, organisational ability, good oral and written communication skills, and good interpersonal skills.
- 3.3.6. There are some organisation like I.E.E.E. (Institute of Electrical and Electronics Engineers), N.A.C.M.E (National action Council for Minorities in Engineering), S.W.E (Society for Women Engineers), all based in the united state of America and E.C.S.A. (Engineering Council of South Africa) in South Africa that assist different engineers in their different field.

4. CONCLUSION

4.1. Electrical engineering is a broad field of engineering giving lots of opportunities in life.

4.2. Jobs offers can be found in news papers, through agencies and on the internet.

4.3. Electrical engineering is a field with a lots of challenges such as :

4.3.1. The fast progress of technology.

4.3.2. The team work.

4.3.3. The working condition.

No need to sub-divide these.

4.4. Electrical engineering is a field in which only the best are kept.

5. RECOMMENDATIONS

5.1. According to point (4.3) electrical engineers should:

5.1.1 Keep up grading themselves.

5.1.2 Be able to work as part of a team, have good communication and interpersonal skills.

5.1.3 Be prepared to work in any conditions .

5.2. Students in electrical engineering should work to be the best in everything they do, in order to improve their chance of employment.

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