An Investigation into Skills Development in the Manufacturing, Engineering and Related Services Sector

by

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ABSTRACT

The purpose of the study was to investigate skills development within the Manufacturing, Engineering and Related Services Sector. The study investigates the reasons associated with the shortage of skills and the factors influencing the rate of skills development within this sector.

This study was guided by the following research questions:

1. What are the reasons behind the shortage of key skills in the Manufacturing, Engineering and Related Services Sector?
2. What is the extent of the shortage of skills in the Manufacturing, Engineering and Related Services Sector?
3. In which occupational categories are there shortages of skills in the Manufacturing, Engineering and Related Services Sector?
4. To what extent will the shortage of skills hamper growth within the Manufacturing, Engineering and Related Services Sector?
5. What is the extent of skills development within the Manufacturing, Engineering and Related Services Sector?
6. What factors influence the rate of skills development within the Manufacturing, Engineering and Related Services Sector?
7. What effect will the retirement of skilled workers have on the Manufacturing, Engineering and Related Services Sector?
8. What are the reasons behind young, highly skilled people being highly mobile within the Manufacturing, Engineering and Related Services Sector?
9. What are the reasons why the Manufacturing, Engineering and Related Services Sector finds difficulty in attracting and retaining young, highly skilled people?
10. What do respondents feel organisations can do to minimise the shortage of key skills and improve skills development so as to ensure a sustainable skills base for the future?

The researcher was motivated to select this topic as she currently works in training and development within an organisation that falls within the Manufacturing, Engineering and Related Services Sector. The researcher has been working in training and development within this sector for the past ten years and has developed a keen interest in skills development.

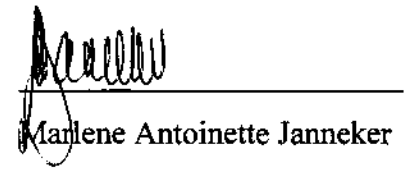
The research method used in the study was the survey method. Questionnaires were used to obtain answers to the above-named questions from Skills Development Facilitators within the Manufacturing, Engineering and Related Services Sector.

The study found that there is a definite shortage of skills within the Manufacturing, Engineering and Related Services Sector. It was found that there is a great shortage of people with technical skills and a combination of technical and management skills. Several factors were identified as hampering skills development within this sector, some of which include, a lack of support by supervisors to facilitate transfer of skills to the workplace, a lack of capital to conduct training and a lack of management support to training and development. It was concluded that the Manufacturing, Engineering and Related Services Sector needs to focus on building capacity so as to overcome the skills shortages experienced in this sector.

These conclusions gave rise to several recommendations. In the main it was recommended that the Manufacturing, Engineering and Related Services Sector needs to extend training initiatives to include sponsorships and bursaries for technical studies, accelerate training and development activities and increase the recruitment of people with technical skills.

DECLARATION

I hereby declare that this thesis is entirely my own work, except where due reference has been made. The work has not been submitted for a degree to another university.



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CHAPTER 1

INTRODUCTION

1.1. INTRODUCTION

The main purpose of this study was to investigate and analyse the reasons associated with the shortage of skills and the factors influencing the rate of skills development within the Manufacturing, Engineering and Related Services Sector. The study also addresses the role that organisations, within this sector, can play in order to address this skills shortage and improve skills development so as to ensure an ongoing availability of key skills for the future.

Chapter 1 of this dissertation covers the background of the study, the motivation for the study, the research hypotheses, the research questions, the research objectives, the scope of the study, the significance of the study, limitations of the study, definition of terms used and an overview of the dissertation.

1.2. BACKGROUND

Globalisation is affecting every nation, market sector and organisation and is impacting hugely on the way business is done. In order for a country to compete globally it needs the right quantity and quality of skills in place. Achieving this combination is determined by the human resource development strategies and policies of the country.

The above-mentioned point is applicable to the South African Manufacturing, Engineering and Related Services Sector. This sector is growing rapidly and is one of the key contributors to the country's economic growth and development (MERSETA, 2004:14). Rapid technological advancement and globalisation have created many new opportunities for companies in the Manufacturing, Engineering and Related Services Sector, and these companies offer metal products which have to compete in the global markets (MERSETA, 2004:14). This process demands a highly skilled workforce, which this sector seriously lacks. The Manufacturing, Engineering and Related Services Sector has a serious shortage of skilled people who have a combination of technical, business and leadership skills and with newer

and advanced technological skills (MERSETA, 2004:43). In addition, the rate of skills development in this sector has been inadequate and has not kept up with the industry's rapid growth and technological advancement (MERSETA, 2004:42). The above-mentioned points show that the shortage of these key skills could seriously hamper and constrain growth in certain parts of this sector; therefore it is imperative that organisations within this sector take this issue of skills development seriously in order to become and remain globally competitive.

Further to the points mentioned above, a large portion of this sector's skilled workforce will retire in a few years time (MERSETA, 2004:15). Consequently, employers within the Manufacturing, Engineering and Related Services Sector will find it increasingly difficult to fill technical, specialist and management vacancies as there is insufficient supply of such skills compared to the ever increasing demand. This is further compounded by the fact that this sector, like many other manufacturing sectors in South Africa, suffers from a poor image in that it is perceived as a low technology and low skills industry (MERSETA, 2004:9). This in turn affects the sector's ability to attract and retain young, highly skilled people as they are highly mobile and move from one employer to the other seeking better opportunities and remuneration (MERSETA, 2004:19).

Against this background it is imperative that the Manufacturing, Engineering and Related Services Sector develops robust skills development plans to meet the demands of this highly competitive world. Skills development will impact on the way the sector attracts, trains, develops and retains highly skilled people.

1.3. MOTIVATION FOR THE STUDY

The researcher was motivated to select this topic as she currently works in training and development within an organisation that falls within the Manufacturing, Engineering and Related Services Sector. The researcher has been working in training and development within this sector for the past ten years and has developed a keen interest in skills development. During the past years, the researcher has observed a change in the approach to skills development within this sector. Within the recent years skills development has become a priority issue for organisations in this sector as organisations realise the importance of having the right quantity and quality of skills in place in order to be globally competitive.

The organisation that the researcher works for has been experiencing a shortage of skills, particularly technical skills. Through networking with various companies within the Manufacturing, Engineering and Related Services Sector at Skills Development Forums, several of these organisations reported that they were experiencing a shortage of technical skills. This observation, coupled with the researcher's interest in skills development motivated the researcher to delve further into this issue of a reported skills shortage within the Manufacturing, Engineering and Related Services Sector. The aim of the research was to investigate why there is a skills shortage, the extent of the skills shortage, the factors influencing skills development within this sector and what can be done to overcome this skills shortage.

The researcher anticipates that the results of the research will provide insight into skills development issues within the Manufacturing, Engineering and Related Services Sector and will assist organisations, within this sector, to tackle these issues.

1.4. OVERALL RESEARCH PROBLEM

There is a shortage of skills in the Manufacturing, Engineering and Related Services Sector, which could retard growth in certain parts of this sector .

1.5. RESEARCH QUESTIONS

The following questions were researched:

1.5.1 What are the reasons behind the shortage of key skills in the Manufacturing, Engineering and Related Services Sector?

1.5.2 What is the extent of the shortage of skills in the Manufacturing, Engineering and Related Services Sector?

1.5.3 In which occupational categories are there shortages of skills in the Manufacturing, Engineering and Related Services Sector?

1.5.4 To what extent will the shortage of skills hamper growth within the Manufacturing, Engineering and Related Services Sector?

1.5.5 What is the extent of skills development within the Manufacturing, Engineering and Related Services Sector?

1.5.6 What factors influence the rate of skills development within the Manufacturing, Engineering and Related Services Sector?

1.5.7 What effect will the retirement of skilled workers have on the Manufacturing, Engineering and Related Services Sector?

1.5.8 What are the reasons behind young, highly skilled people being highly mobile within the Manufacturing, Engineering and Related Services Sector?

1.5.9 What are the reasons why the Manufacturing, Engineering and Related Services Sector finds difficulty in attracting and retaining young, highly skilled people?

1.5.10 What do respondents feel organisations can do to minimise the shortage of key skills and improve skills development so as to ensure a sustainable skills base for the future?

1.6. HYPOTHESES

This research study investigated the following hypotheses:

1.6.1 There is a shortage of skills in the Manufacturing, Engineering and Related Services Sector.

1.6.2 The shortage of skills in the Manufacturing, Engineering and Related Services Sector could hamper growth in certain parts of the sector.

1.6.3 There is a slow rate of skills development in the Manufacturing, Engineering and Related Services Sector.

1.6.4 A large portion of this sector's skilled workforce will retire in a few years time and the skills they possess will be difficult to replace.

1.6.5 Young, highly skilled people are highly mobile within the Manufacturing, Engineering and Related Services Sector.

1.6.6 The Manufacturing, Engineering and Related Services Sector finds difficulty in attracting young, highly skilled people.

1.6.7 The Manufacturing, Engineering and Related Services Sector find difficulty in retaining young, highly skilled people

1.7. SCOPE OF THE STUDY

The study looks at the reasons associated with the shortage of skills, the factors influencing the rate of skills development and what can be done to address the skills shortage within the Manufacturing, Engineering and Related Services Sector in Kwa-Zulu Natal (KZN). There

are 178 companies in the Manufacturing, Engineering and Related Services Sector in KZN that employ 50 people or more. The total population for this study is 178 Skills Development Officers from these 178 companies. These companies were selected on the following basis:

(i) companies that employ 50 employees or more are required to have a Skills Development Committee / Training Committee in place for consultation purposes. These companies are required to consult employees, through consultation forums, on the implementation of the Workplace Skills Plan and the process involved in developing the Annual Training Report,

(ii) companies that employ 50 people or more also have an increased link to employment equity in that such companies are also required to complete an employment equity report. With regard to skills development, such companies are required to explain how the training implemented made a contribution to achieving the employment equity targets in the respective organisations, and

(iii) all 178 companies are based in KZN and it was easier for the researcher to gain access to information due to the proximity of these companies to the researcher.

1.8. SIGNIFICANCE OF THE STUDY

Organisations realise that a highly skilled workforce is one of the key aspects to becoming globally competitive. This study may prove useful to the Manufacturing, Engineering and Related Services Sector to determine the degree to which skills are lacking within this sector and provide understanding with regard to the skills development issues organisations are facing within this sector. In addition, respondents will provide insight into what organisations can do to minimise the shortage of skills and improve skills development so as to ensure a sustainable skills base for the future.

The researcher intends to share the results of her research with her organisation as this may provide insight into some of the skills development issues her organisation is grappling with.

Future researchers on this topic will benefit from this study as the researcher aims to determine the reasons associated with the skills shortage, the factors influencing skills development and what can be done to address the skills shortage within the Manufacturing, Engineering and Related Services Sector. The results of this study will provide a platform from which future researchers can work.

1.9. DEFINITION OF TERMS

Skill

The ability to perform a set of tasks

Competence

The application of skills and knowledge to the job so that work standards are achieved.

Skills Development

Skills development refers to the development and improvement of peoples' skills, knowledge and abilities. Related terms: training and development.

MERSETA - Manufacturing Engineering and Related Services Sector Education and Training Authority

The MERSETA is one of 23 Sector Education and Training Authorities (SETAs) established in terms of the Skills Development Act of 1998. These SETAs are responsible for the promotion and support of skills development within their respective sectors. The MERSETA is responsible for overseeing skills development issues, initiating the development of appropriate qualifications and receiving skills development levies within the Manufacturing, Engineering and Related Services Sector.

Department of Labour

The Department of Labour publishes legislation that regulates labour practices and activities. The core activities of the Department of labour include:

- improved economic efficiency and productivity,
- skills development and employment creation,
- sound labour relations,
- eliminating inequality and discrimination in the workplace, and
- alleviating poverty in employment.

Training Levy

A compulsory levy payable by organisations for the purpose of funding education and training within their organisations. The levy is outlined is the Skills Development Levies Act, 1999 and is based on 1% of an employer's payroll. Related term: Skills Development Levy.

Skills Development Facilitator

A Skills Development Facilitator is nominated to oversee the skills programme in the respective company.

Skills Grants

The revenue that employer's receive from their respective SETA's for the training of staff in accordance with the workplace skills plan.

Skills Development Report

An annual report submitted by organisations to the Department of Labour, which details training figures and training progress within the organisation during the past year.

Workplace Skills Plans

A plan drafted and submitted by each employer for the development of skills within the particular organisation. Submission to the SETA for that particular sector, acceptance, implementation and monitoring are required before an employer is re-imbursed a portion of the skills levy.

Outcomes

Contextually demonstrated end products of the learning process.

Recognition of Prior Learning

A process by which formal and / or informal experiential learning is recognised.

Employment Equity Report

An annual report submitted to the Department of Labour, which details employment equity figures and employment equity progress within the organisation over the past year.

Employment Equity Plan

A plan that has to be drawn up by employers, which details how the respective employers plan to address equity imbalances.

Blacks

Africans, Coloureds and Indians.

Designated Groups

Designated Groups refers to Africans, Coloured, Indians, women and persons with disabilities.

1.10. OVERVIEW OF DISSERTATION

Chapter 2 of this dissertation reviews literature in relation to this topic and comprises a study and evaluation of the contributions of previous authors on the topic of skills development. This chapter includes discussion on the systematic approach to training, the predictors of training outcomes, the retention of skills, factors that hamper skills development and factors that promote skills development.

Chapter 3 describes skills development in South Africa. This chapter includes a discussion on the background to skills development in South Africa, skills development legislation and strategies, employment equity, affirmative action and skills development. Lastly, this chapter also provides a description of the Manufacturing, Engineering and Related Services Sector at a national level and in Kwa-Zulu Natal.

Chapter 4 describes the field study conducted in order to understand the problem of a skills shortage within the Manufacturing, Engineering and Related Services Sector. The survey method was used in this study. The data was analysed using both quantitative and qualitative methods. The research s mainly of a descriptive nature, therefore the data is analysed using descriptive data analysis techniques such as tables and graphs.

Chapter 5 presents the findings of the field research.

Chapter 6 presents a discussion of these findings in the context of the research objectives and the conclusions based on the findings of the research.

Chapter 7 presents recommendations based on the findings. This chapter also includes suggestions for future research.

Chapter 8, which is the final chapter, discusses the limitations of the study.

CHAPTER 2

LITERATURE REVIEW: TRAINING AND DEVELOPMENT

2.1 INTRODUCTION

While most of the international literature uses the terms training and development, the South Africa literature tends to use the term, skills development. However, for the purposes of this report, the assumption is that training and development and skills development mean the same thing.

Skills development is a priority issue globally and South Africa is no exception to this phenomenon. Several studies have been conducted into skills development and its importance to human resources development. It is noted by Nel *et al* (2001:435), that education and training has been the most powerful lever for improving both individual opportunity and the institutional competitiveness of countries worldwide.

In relation to the above-mentioned points, it is important to understand the concepts of education, training and development.

Nel *et al* (2001:467), describe education as the activities aimed at providing knowledge, skills, moral values and understanding required in the normal course of life.

According to Nel *et al* (2001:467), training and development are defined as the factors that guide an individual and prepare him or her to perform specific activities as directed by the job they occupy. Training and development are essentially learning experiences in that they seek a relatively permanent change in an individual that will improve his or her ability to perform on the job (Nel *et al*, 2001:467).

Furthermore, Nel *et al* (2001:467), state that training is a planned process which is aimed at modifying attitude, knowledge or skills behaviour and is directed at improving an employee's work performance. It is important that training is results-oriented and is measurable in terms of the organisation's requirements. To this end training must make a real contribution to

improving the goal achievement and the internal efficiency of the organisation (Nel *at al*, 2001:467)

On the other hand, Nel *at al* (2001:468), point out that the development focuses on future jobs within the organisation. It refers to the acquiring of new skills and abilities as the individual's career progresses. Therefore, development pertains to the development opportunities within a job for a specific employee, with reference to that individual's personal growth and goals.

Desimone *et al* (2002:11), describe human resources development as the integrated use of training and development, organisation development and career development to improve individual, group and organisational effectiveness. Human resources development also takes strategic management decisions into account.

Nel *et al* (2001:436), point out that in order for training to be successful and to yield positive returns it is important that training and education policies be shaped within the prevailing macro-social and economic circumstances as well as the national strategic vision of a particular country. Strategic management involves decisions and actions that aim to provide a competitively superior fit with the external environment and enhance the long run performance of the organisation (Desimone *et al*, 2002:12). This supports the point by Desimone *et al* (2002:12), that the external environment is important in considering human resources development.

In the South African context, the country has undergone profound socio-economic transformation in that old apartheid structures have been dismantled and have been replaced by egalitarian and democratic structures (Department of Labour, 2002:1). These changes have brought about changes in the economy of the country, which has migrated from activities based in primary sectors such as agriculture to more knowledge-based activities, which require a high level of skills (Department of Labour, 2002:1). According to the Department of Labour (2002:1), the legacy of apartheid denied access to quality education to a vast majority of the population, therefore resulting in a large sector of the population lacking key competencies required to meet the challenges of the economic change within the country's macro environment. It is against this background that the country needs to identify areas of skills shortages and put plans in place to develop and improve the quality of the human resources within the country so as to transform the economy from a low skills base to one that is committed to life long learning. The South African government fully appreciates

the need for skills development and has committed itself to human resources development strategies in an effort to be more responsive to the education and training needs of South Africans and to make South Africa more competitive (Department of Labour, 2002:1).

2.2. A SYSTEMATIC APPROACH TO TRAINING

According to Goldstein (1993:17), training systems do not exist as a vacuum within organisations. Training systems are one of the subsystems within an organisation. This is illustrated by a change in the selection system, which could result in people with higher or lower job-relevant skills having a dramatic effect on the level of training required in the organisation (Goldstein, 1993:18).

Jinabhai (2005:89), takes this concept of a systematic approach to training further by stating that since the primary goal of training is to contribute to the organisation's overall goals, training programmes should be developed in line with the corporate strategy. Jinabhai (2005:90), considers the systematic approach to training to comprise the following elements:

2.2.1. identifying and analysing training needs,
2.2.2. setting training objectives,
2.2.3. planning training to meet objectives,
2.2.4. conducting training in accordance with the plan, and
2.2.5. evaluating training.

This systematic approach is a step-by-step process which provides structure and direction to training so as to ensure that the selected training meets the organisational objectives. These training elements are discussed in detail below.

2.2.1 Identifying and Analysing Training Needs

McClelland (2001:12), states that the main intent of training needs analysis is to investigate and ultimately identify problem or potential problem areas with regard to human performance and skills development.

According to Salas *et al* (2001:475), one of the most important aspects of training and development is conducting a training needs analysis as it determines where training is needed, what needs to be taught and who needs to be trained.

Training needs analysis is concerned with defining the gap between what is happening and what should be happening. In addition, it provides a detailed investigation of apparent performance problems so as to establish real causes and to determine which of these problems can be addressed through training (Jinabhai, 2002:88). Sorenson (2002:32), supports this point by confirming that a needs assessment identifies performance measures, performance standards, performance gaps and determines whether these gaps can be closed through training.

According to Brown (2002:569), the objectives behind conducting a needs assessment, prove useful in identifying the organisational goals and the effectiveness of training in achieving these goals, the gaps or discrepancies between employee skills and the skills required for effective job performance and problems that may or may not be solved by training. A needs assessment also determines the conditions under which the training and development activities will occur and the basis for evaluating the effectiveness of the training programme.

Brown (2002:572), confirms that a thorough needs analysis examines training needs on three levels, which include:

(i) Organisational Analysis

This level examines whether training is needed in an organisation and under what conditions training will be conducted. In addition, it identifies the knowledge, skills and abilities that employees will need for the future, as the organisation and their jobs change over time (Brown, 2002:572).

(ii) Task Analysis

Brown (2002:573), describes task analysis as a process, which begins with the job requirements and compares employee knowledge and skills to determine training needs. Job descriptions and specifications are examined so as to determine information on expected performance and the skills employees need to accomplish their work. Gaps between performance and job requirements indicate a need for training (Brown, 2002:573).

(iii) Individual Analysis

Brown (2002:573), states that this analysis considers individual employees and how they perform in their jobs. Information for such analysis is obtained during employee performance reviews. In cases where the review indicates a deficiency, training can then be designed to meet the expected performance standard (Brown, 2002:573). In addition employees can be interviewed, surveys conducted or tests administered to determine their training needs (Brown, 2002:573)

Once the needs analysis has been completed, training objectives need to be set in order to address the specific training needs that have been identified through the needs analysis process. The following section deals with the setting of training objectives.

2.2.2. **Setting Training Objectives**

Desimone *et al* (2002:167), state that training objectives describe the intent and the desired result of the training programme. Objectives are essential to an effective training programme in that they form the basis for selecting the programme content and training methods. In addition, objectives provide a basis for training evaluation and assist participants to focus their attention and efforts during training (Desimone *et al*, 2002:167).

Kirpatrick (2004:17), confirms that the overriding objective of any training course is stated in terms of the desired knowledge and understanding that the programme is trying to impart to trainees. This forms the basis of an effective training evaluation process.

Jinabhai (2005:90), asserts that effective training objectives underlie the identification of training priorities and contribute to the successful implementation of training programmes. Jianbhai (2005:90), further states that training objectives focus on three aspects, which include:

(i) a statement of outcome behaviour, which refers to what the employee will be able to do on completion of training,

(ii) a description of the conditions under which the outcome behaviour is expected to occur, and

(iii) a statement of the minimum level of achievement that will be expected as evidence that the employee has accomplished what was required.

Training objectives also focus on developing competencies of employees, improving their performance and helping people to grow within the organisation in order to meet its future needs for human resources from within the organisation. Lastly, training objectives concentrate on reducing the learning time for employees starting new jobs on appointment or promotion so that they become fully competent as quickly and economically as possible (Jinabhai, 2005:91).

2.2.3 **Planning Training to Meet Objectives**

According to Hunter (2002:226), the training course should be designed according to the training objectives.

Hunter (2002:227), identifies the following aspects which need to be considered when planning training:

(i) Training manuals need to be compiled. These manuals should include the following:

(a) an introduction which outlines the objectives of the course, how the course will be conducted and how the learners will be evaluated during the course,

(b) the time table for the course,

(c) specific objectives for each module,

(d) the content of each module,

(e) instructions to the instructor explaining how each module will be run,

(f) the key points which the instructor should stress during each module, and

(g) the audio-visual aids which will be used.

(ii) Selecting the Training Technique that will be used

Hunter (2002:227), identifies three factors which should be taken into account when deciding on the type of training technique to be used:

(a) Job related factors refer to the nature of the tasks to be learned which determine the type of training technique that will be used e.g. if interpersonal skills are to be taught then behaviour modelling techniques such as role plays would be used.

(b) Organisational factors refer to issues such as money available for training, production techniques, the urgency of training , the management time available for training and the attitude of senior management towards training.

(c) Personal factors of the trainers and trainees include the experience, skills and knowledge of the trainees, the level of literacy of the trainees, trainees' attitudes towards the training and the language to be used during training.

2.2.4 **Conducting Training in Accordance with the Plan**

Conducting training requires planning and organising so that the training runs smoothly and according to the training plan (Hunter, 2002:229). This requires ensuring that the equipment and facilities are all in order and that the trainees are prepared for the training (Hunter, 2002:230).

Hunter (2002:230), points out that managers should ensure that there is a budget for the training programme well in advance. It is important that the budget is sufficient to cover all the direct costs of training such as training materials, accommodation, transport and meals.

It is important that the equipment and facilities are planned and organised beforehand. Some of these include: the booking of the venue, audio-visual aids, writing materials, meals, advising trainees timeously of the training and dealing with transport and accommodation arrangements.

Hunter (2002:231), points out that preparing the trainees for the training is very critical to the success of training. People need to be given adequate notice of the training so that they can prepare themselves mentally for the learning process. It is accepted that the more employees are involved in the planning of the training process the better they understand the need to be trained, the content of the training and what is expected of them in terms of learning and performance standards and objectives. In order for employees to be committed to learning the information and skills which they will be taught and apply them in the work situation they need to have a positive attitude towards training.

2.2.5 **Evaluating Training**

According to Thomson (2004:15), the evaluation of training serves three purposes,

which are, proving that training works, improving training practices and reinforcing their impact.

According to Blanchard *et al* (2000:296), the factors that drive the need to evaluate training include the increased focus on quality, the need for continuous improvement and organisational cost-cutting initiatives.

In his article Jinabhai (2005:90), states that a training programme with effective feedback and evaluation techniques enables employees to reach the required performance levels in their jobs in a relatively short time.

Nel *et al* (2001:483), state that training and development can never be effective if it is not properly assessed. Evaluation forms the last link in the loop of the systems approach to training and development as it determines whether the training gap has been closed (Nel *et al*, 2001:483).

Nel *et al* (2001:483), consider the following aspects as being crucial to successful training evaluation:

(i) training evaluation is a continuous process and does not only occur at the end of the training process,
(ii) training evaluation must be well planned and have clearly indicated objectives,
(iii) training evaluation is a form of quality control, and
(iv) evaluation is not only directed at testing students but at also testing the entire training system.

Desimone *et al* (2002:231), state that the most influential framework in training evaluation is the Kirkpatrick Evaluation Framework. This framework evaluates training at four levels, which are:

(i) Reaction (Level 1).
This level focuses on the trainees' perceptions about the training programme and its effectiveness, i.e. whether the employees like the programme and whether they felt it was useful.

(ii) Learning (Level 2)

This level looks at determining whether the employees learnt what the training objectives said they should learn. This is determined through administering a test to participants.

(iii) Job Behaviour (Level 3)

This level is a critical measure of training success as it is concerned with whether trainees use what was learned in training back on the job.

(iv) Results (Level 4)

The last level determines whether the training has improved the organisation's effectiveness, i.e. whether the organisation is more efficient and more profitable as a result of the training programme.

Sloman (2004:50), asserts that a new concept has emerged that has been termed return on investment (ROI), which looks at the overall business benefit of training. This concept is sometimes referred to as the fifth level of the Kirkpatrick model. In considering the overall business benefit of training the concept of ROI focuses training and development efforts on the learning needs of the organisation.

The above discussion looks mainly at the systematic approach to training which begins with the needs analysis, setting training objectives, planning the training to meet the objectives, conducting training in accordance with the plan and finally evaluating the training. It is also important to bear in mind that during the training process there are several individual and organisational factors at play, which influence the outcome of the training. These factors are known as predictors of training outcomes and are discussed in detail in the section, which follows.

2.3 PREDICTORS OF TRAINING OUTCOMES

Predictors of training outcomes refer to the factors that pertain to the individual and organisation that account for differences in the training outcome (War *et al*, 1999:354).

According Salas *et al* (2001:477), the predictors of training outcomes are discussed as follows:

2.3.1 **What Trainees Bring to the Training Setting**

(i) Cognitive Ability

Research shows that if a person's general intelligence is good, it promotes self-efficacy and helps greatly with skills acquisition. Therefore, people with a high cognitive ability will likely learn more and succeed in training (Salas *et al*, 2002:478).

(ii) Self-efficacy

Self-efficacy refers to the belief that one can perform specific tasks and behaviours. Findings from research show that self-efficacy leads to improved learning and performance (Salas *et al*, 2002:478). In their article War *et al* (1999:354), agree that a person's confidence about his or her ability to cope with a task has been shown to predict learning outcomes. War *et al* (1999:354), also examine the impact of feelings of anxiety about learning with the expectation that feelings of anxiety will have a negative impact on academic performance and training outcomes.

(iii) Goal Orientation

Sales *et al* (2002:479), classify goal orientation into two areas, which include: mastery goal orientation which refers to individuals seeking to develop competence by acquiring new skills and mastering novel situations; and performance goal orientation whereby individuals look for assurances of their own competence by seeking good performance evaluations and avoiding negative evaluations.

(iv) Trainee Readiness

Goldstein (1993:87), states that trainee readiness refers to the maturational and experiential factors in the background of the learner. Trainee readiness is considered important in the learning process in that trainees perform better if they have the prerequisite skills necessary to perform the task. Goldstein (1993:87), illustrates this point by stating the following, "programmes will fail if the prerequisite skills necessary to perform successfully are not considered."

Cognitive ability, self-efficacy, goal orientation and trainee readiness are the attributes that individuals bring to the training environment which in turn influence the training outcome. It can be seen that positive attributes such as high cognitive ability, high self-confidence and trainee maturity lead to a positive learning outcome. On the other hand, high levels of

anxiety, low cognitive ability and a lack of prerequisite skills required to perform tasks could lead to a negative learning outcome.

2.3.2 **Training Motivation**

Salas *et al* (2002:479) define training motivation as the direction, effort, intensity and persistence that trainees apply to learning-oriented activities before, during and after training. Recent studies have indicated that trainee's motivation to learn and attend training has an effect on their skill acquisition, retention and willingness to apply the newly acquired knowledge, skills and abilities on the job (Salas *et al*, 2002:479). Goldstein (1993:90), states that trainees who are motivated to learn from the outset of the training programme have a greater advantage from the beginning of the course. Goldstein (1993:87), considers the converse to this statement by stating that individuals generally perform poorly in training if they do not want to learn or they do not believe the course will be useful to them.

2.3.3 **The Pre-training Environment and Climate**

Salas *et al* (2002:480), state that research suggests that the manner in which the organisation frames the training and the nature of the trainees' previous experiences in training do influence the learning outcomes. For example, this research shows that training which was structured as advanced or remedial influenced the training motivation and learning. Other pretraining contextual factors such as voluntary or mandatory attendance were also found to influence the motivation to learn. In addition, the research also indicates that trainees' previous experiences with training, such as prior negative events, affect learning and retention.

According to Salas *et al* (2002:480), this is a neglected area and one in which more research and work is required.

2.3.4 **Organisational Features**

War *et al* (1999:354), provide insight into the transfer climate in an organisation which impacts on the extent to which learning is actually applied. War *et al* (1999:355), state that when supervisors and colleagues encourage and reward the application of the course material, training is more likely to yield positive outcomes on the job.

2.3.5 **The Transfer of Training**

Gumuseli *et al* (2002:81), define the transfer of training as, " the process of the implementation of knowledge, skill, attitude and other qualities acquired in the training programme into the workplace." Janove (2002:99), confirms this point by describing the transfer of training as being the lessons learnt during training being translated into on-the-job behaviour.

Transfer of training can either be positive or negative. Positive transfer of training means that the initial training promotes intended job performance and negative transfer of training implies that the training does not produce the intended job performance (van der Klink et al, 2001:53). Gumuseli *et al* (2002:81), considers transfer of training to fall into three categories, i.e. (a) positive transfer, which could in increased productivity and effectiveness, (b) negative transfer, which could result in decreased motivation or a decline in performance or (c) there might be no change – zero transfer.

In understanding the aspects that influence the process of the transfer of training, Clarke (2002:149), puts forward the Baldwin and Ford Transfer of Training Model. This model looks at the following aspects:

(i) training inputs which includes the following (a) trainee characteristics examines aspects such as ability, personality and motivation, (b) training design looks at aspects such as the principles of learning, sequencing of learning and the training content, and (c) work environment considers aspects such as support within the work environment and the opportunity to use the skills learnt,

(ii) training outputs considers the manner in which skills are learned and retained, which in turn is directly influenced by trainee characteristics, training design and the work environment, and

(iii) conditions of transfer looks into aspects of generalisation and maintenance, which refers to applying the material learned in training on the job and maintaining the skills learned over a period of time.

The above model indicates that the transfer of training follows a systematic approach of training inputs which go through a training process and generate a training output which in

turn has to be maintained over a period of time. The inputs refer to individuals' personal attributes, the design of the training and the work environment in which the training is to take place. The outputs refer to the degree of learning and retention that has taken place. The learning that has taken place needs to be applied on the job and has to be maintained over a period of time.

Olsen Jr (1998:62), identifies the following variables as influencing the transfer of training:

(i) similarity between training and the ultimate task,

(ii) the amount of skills practice,

(iii) training simulations that will closely match the actual work setting, and

(iv) feedback on how the skill is being performed and how facilitation on the job helps the trainee.

Gumuseli *et al* (2002:82) state that leadership qualities of managers have a significant impact on the transfer of acquired knowledge to the work environment. Investigations reveal that the support provided by managers before training, during training and after training contributes to the positive transfer of training and the spin-off is increased productivity, effectiveness and job satisfaction (Gumuseli *et al,* 2002:82).

Desimone *et al* (2002:93), identify the following aspects that will improve the transfer of training back to the workplace:

(i) develop clearly stated learning objectives,

(ii) maximise the similarity between the training situation and the job situation,

(iii) provide ample opportunity during training to practise the task,

(iv) use a variety of examples, including both positive and negative models of intended behaviour,

(v) identify and label important features of a task,

(vi) make sure trainees understand the general principles,

(vii) provide support back in the work environment, including clear goals, measurement and rewards for using the new behaviours, and

(viii) provide ample opportunity to perform what is learned back on the job.

Goldstein (1993:131) views the transfer-climate issue as being important to the effective transfer of training in that the degree of positive transfer climate affects the degree to which

learned behaviour is transferred onto the job, independent of the degree to which trainees had learned in the training programme.

According to Goldstein (1993:41) research shows that employees who operate in a situation where a more positive transfer climate exists in terms of influencing trainees to use what they have learned and rewarding trainees for doing so, demonstrated more transfer behaviour onto the job.

Another important issue with regard to transfer-climate is the identification of high-risk situations that the trainee would face and the need to develop coping mechanism to deal with such situations. This is illustrated by the following example: if one of the problems is increased stress resulting from time pressure then coping skills such as time management should be introduced. Such coping mechanisms result in increased self-efficacy and decrease the probability of relapses in newly learned behaviour (Goldstein, 1993:131).

Khoza (1999:28), identifies the following factors which hinder the effective transfer of training:

(i) lack of reinforcement on the job to support trainees in applying training to their jobs,

(ii) interference from the immediate work environment in the form of work and time pressures, insufficient authority, ineffective work processes and inadequate equipment, which limit the transfer of knowledge and skills to the work place,

(iii) the lack of active support by the organisational culture or climate to facilitate the transfer of skills to the workplace,

(iv) trainees believe that training programmes are impractical or irrelevant to their needs and proposed changes would cause them undue comfort and extra effort,

(v) trainees experience a loss of motivation when they are separated from the inspirational presence or support of a trainer,

(vi) trainees have perceptions that the training programmes were poorly designed and delivered, and

(vii) trainees experience pressure from work peers not to transfer training back to the workplace.

Organisations have a major role to play in facilitating the transfer of skills to the workplace. A lack of support from supervisors to facilitate the transfer of skills to the workplace and an

unsupportive work environment play a major role in hindering the effective transfer of training. Negative trainee perceptions about the training programme, low trainee motivation and intimidation from peers not to transfer skills to the workplace are some the factors from a trainee perspective that hinder the effective transfer of training.

It is also important that the skills acquired through training are retained. The next section deals with skills retention.

2.4 RETENTION OF SKILLS

Retention strategies refer to the processes, which are implemented to keep the best employees in an organisation (Teke, 2002:11). Mc Bain (1999:25), states that organisations that are able to attract and retain talented employees will be in a better position to secure competitive advantage. This point is reiterated by Hiltrop (1999:422), who states that superior talent is increasingly recognised as the prime source of competitive advantage in high performance organisations.

Hiltrop (1999:424), puts forward certain principles which organisations should consider in an effort to retain key skills. These include: make the ability to attract and retain talent a top management priority, create policies and practices that enhance the firm's attractiveness in the labour market, provide opportunities for learning and self-development, create challenging and career-enhancing work experiences and build your own talent pool from within the organisation as much as possible.

Leonard (1998:22), found that organisations that were successful in retaining key people focussed on aspects such as skills development, job coaching and recognition. Birt *et al* (2004:26), support this statement by confirming that employers' who are winning the war for talent focus on employee development, recognition and a supportive organisational environment.

Against the background of the above-mentioned points, the following paragraphs will discuss in closer detail the training and development strategies, which support skills retention. These strategies include:

2.4.1. Career Management and Career Development,

2.4.2. Performance Management,

2.4.3. Coaching, and

2.4.4. Mentoring.

The above-mentioned strategies focus on developing and improving the skills levels of employees. Through employing these strategies organisations are able to create an organisational environment conducive to employee development and skills retention. The section that follows discusses these strategies in further detail.

2.4.1 Career Management and Career Development

Schreuder *et al* (1997:16) define career management as a shared responsibility between the employer and employee. This is an ongoing process whereby the employee; obtains self-knowledge, knowledge of the work environment, develops career goals, develops a strategy to attain goals and obtains feedback on the effectiveness of the strategy and the relevance of the goals. Desimone *et al* (2002:458), consider career management as an ongoing process of preparing, implementing and monitoring an individual's career plans in line with the organisation's career system.

Abrahams (2003:7), asserts that the implementation of career management enables employees to fit into professions of their choice while at the same time uplifting the skills level throughout the organisation. Abrahams (2003:7), identifies the following aspects as being important to career management: a clear understanding of one's strengths and weaknesses, conducting career research, making informed decisions, developing a career strategy, re-evaluating the career strategy and making changes where required.

According to Nel *et al* (2001:501), the major reasons for organisations implementing career management are detailed as follows:

(i) to cope with global competition and the increased mobility of professional employees,

(ii) to provide employees with the opportunity to control their careers and the younger generation employee is also seeking more career options and increased job satisfaction,

(iii) organisations need to avoid obsolescence by encouraging employees to learn new skills,

(iv) staff turnover tends to reduce as employees experience less frustration and greater job satisfaction because they know they are able to advance within the organisation, and

(v) employees are given the opportunity to perform better and to be placed into jobs that fit their ambitions and talents.

Nel *et al* (2001:501), assert that the aim of the career management process within an organisation is to match the employee's needs, abilities and goals with the current and future needs of the organisation. According to them, career management attempts to integrate the objectives of the individual and the organisation so that both parties will gain. The benefits of this process being improved satisfaction and personal development for the employee and increased productivity and creativity within the organisation.

Career development is an important element of the career management process. Schreuder *et al* (1997:16), define career development as, "an ongoing process by which individuals progress through a series of stages, each of which is characterised by a unique set of issues, themes or tasks. Nel *et al* (2001:504), define career development as a formal approach instituted by an organisation to ensure employees with the appropriate qualifications and experience are available when needed.

According to Joy-Matthews (2004:149), employees have a responsibility for keeping their skills current and developing skills for the future. Managers must in turn ensure that employees' expectations are realistic, that opportunities to grow are offered and that the necessary support is provided.

Arumugam (1997:58) defines three principles, which are paramount to effective career development. These principles are:

(i) the purpose or need must be clearly defined,

(ii) a thorough analysis of the individual' aspirations and capabilities should be conducted, and

(iii) relevant and updated information on the candidate's current and possible jobs should be readily available.

Nel *et al* (2001:506) state that career development programmes can be implemented informally such as on-the-job-training or off-the-job-training away from the organisation such as workshops and seminars.

Important career development methods are pointed out by Nel *et al* (2001:506), which are outlined below:

(i) performance appraisals provide valuable information as they assesses the strengths and weaknesses of employees,

(ii) workshops which last two to three days can provide a means to help employees plan and develop their careers,

(iii) career counselling by qualified counsellors can help employees determine career development strategies, and

(iv) management by objectives proves to be an excellent way of assisting employees with career development as subordinates and superiors jointly agree on ways to achieve organisational goals whilst taking employees' personal goals into account.

These career development methods provide valuable information to employees which assists them in planning and developing their careers.

2.4.2 **Performance Management**

Spangenberg (1994:14), asserts that performance management comprises of a set of techniques used by a manager to plan, direct and improve the performance of subordinates in line with achieving the organisational goals. Desimone *et al* (2002:366), state that performance management entails an ongoing process of improvement and individual development rather than focussing primarily on an annual performance assessment, which is normally done in the way of a performance appraisal.

Nel *et al* (2001:516) identify three main purposes of performance management. The purposes of performance management include the following:

(i) it is a process for strategy implementation,

(ii) it is a vehicle for culture change, and

(iii) it provides input to other human resources systems, such as development and remuneration.

Performance management systems allow organisations to implement changes within the organisation through using methods to improve employees' performance, which ultimately impacts on the business performance. Performance management systems are also linked to training and development as the information obtained from a performance management

process provides valuable input into what type of training and development interventions are required to improve performance.

Venter (1998:45) identifies the following factors which performance management should focus on:

(i) accomplishment – the business results and outcomes delivered by individuals ad teams within the organisation,

(ii) competency requirements – organisation, job and individual competencies for ensured success, and

(iii) values – personal qualities that influence work quality and climate.

According to Venter (1998:46), the performance management process firstly looks at establishing a philosophy, secondly accomplishments and criteria are established, which is known as the performance contract and thirdly is the establishment of the review process. Following these three first-level steps, the individual's performance is assessed against the established goals and standards. Should the individual meet the performance criteria the next step would be to recognise and reward the good performance. However, should there be a performance gap then training and development interventions, such as coaching, are introduced.

Venter (1998:46) puts forward the following aspects, which underpin a successful performance management process:

(i) employees must have mutually agreed performance contracts with clearly defined goals and standards, focussing on results, outcomes and success criteria,

(ii) supervisors must be trained in the underlying philosophy, to communicate about performance contracts, give feedback and identify development needs,

(iii) employees must be trained to participate in the performance contracting process, giving and receiving feedback and individual career development,

(iv) performance must be recognised and rewarded in accordance with the organisation's policy,

(v) the performance management system must be applied in a non discriminatory, fair and uniform manner, and

(vi) there is alignment and support with external processes such as SAQA and NQF.

Teke (2002:11), asserts that the effectiveness of a performance management system encourages employees to stay in an organisation as employees are rewarded for their work and employees receive feedback on their performance and the direction of their careers.

2.4.3 **Coaching**

According to Desimone *et al* (2002:367), there is no single definition of coaching as several authors, over the years, have put forward different definitions and concepts of coaching. Fournies defines coaching as a performance improvement technique (Desimone *et al* , 2002:367). Desimone *et al* (2002:367), put forward another definition of coaching by Kinlaw, which views coaching as a mutual discussion between a manager and employee. This process follows a predictable procedure and leads to superior performance, commitment to sustained improvement and positive relationships.

Robbins (1996:442), supports the above definition by describing coaching as a process between and manager and subordinate where the manager provides instruction, guidance, advice and encouragement to help employees improve their job performance.

Zweibel (2005:62), puts forward that coaching supports training and development initiatives in that it is an ongoing process, which continually reinforces the lessons learned from training through a structured process involving feedback and follow-up.

Clawson (1996:9), also views coaching as an intervention that supports training initiatives in that coaching is seen as the process whereby technical skills are conveyed from one person to the other.

According to Robbins (1996:442), coaches should exhibit three generic skills. These generic skills are:

(i) the ability to analyse ways to improve an employees' performance and capabilities by looking for opportunities for an employee to expand his or her capabilities,
(ii) the ability to create a supportive climate by reducing barriers to development and facilitating a climate that encourages performance improvement, and
(iii) the ability to influence employees to change their behaviour by encouraging continual performance improvement and recognising and rewarding small improvements.

It is important that a coach creates an environment conducive to development and is able to work on methods to improve employees' performance and capabilities. In addition, a coach should be able to motivate and encourage employees to consistently perform at better levels.

Munetsi (1999:50), considers some of the circumstances, which may require coaching as a training intervention:

(i) an employee may not be working up to the required standard,
(ii) an employee may be struggling with a challenging assignment,
(iii) introducing more effective ways of doing tasks,
(iv) an employee is meeting standards, however, wishes to work better, and
(v) an employee is faced with an important career opportunity.

Coaching may be introduced to develop employees at different stages of their careers. Coaching is useful in a major issue such as when an employee is considering a career change, however, may also be useful in assisting employees improve in their day-to-day tasks as well as looking for new and smarter ways of doing things.

Munetsi (1999:50), presents the broad coaching process as containing the following key elements:

(i) describe the performance areas for development and why it is important,
(ii) obtain the employee's opinion,
(iii) ask the employee to identify specific ways to enhance performance,
(iv) give feedback on the employee's ideas and add additional comments,
(v) summarise actions and set follow-up sessions, and
(vi) express confidence and support.

It can be seen that the coaching process is a shared process that involves input from both the employee and supervisor. Through this process the employee take ownership for his or her development but also draws on the expertise, motivation and support of his or her supervisor.

Through the application of the above-mentioned aspects of coaching, this intervention provides the major benefits of helping businesses compete more effectively and assists people attain their potential (Jarvis, 2004:49).

2.4.4 **Mentoring**

Desimone *et al* (2002:488), describe mentoring as a relationship between a junior and senior member in an organisation that contributes to career development of both members. In many organisations mentoring relationships are formed as a result of parties' mutual attraction, however, other organisations develop formal mentoring programmes where mentors and protégés are paired off and provided with support for the relationship (Desimone, *et al* 2002:488).

McBain (1998:24), sees mentoring as process mainly focused on career development whereby mentors are the individuals with advanced experience and knowledge who are committed to providing upward mobility to support their protégé's careers. The second aspect to mentoring is the focus on broader personal development and learning (McBain, 1998:24).

Clawson (1996:9), views mentoring as a developmental relationship through which the intent and result of the relationship is to help both parties grow and develop. Mentoring extends beyond the transfer of knowledge and skill, to include technical, organisational, career and personal life issues (Clawson, 1996:9). The major benefit of the mentoring process is that protégés learn from their mentors how to improve their job performance and manage their careers better (Clawson, 1996:9).

Fenwick (2001:33), favours the view that mentoring should be a strategic intervention, which is structured with defined objectives, parameters, time limits and budget. In line with this approach the mentoring process focuses on the following aspects:

(i) the company identifies employees who they believe have the potential to grow and develop into more senior positions,

(ii) the employees' current skills levels must be assessed in order to ascertain what development interventions are required,

(iii) once the skills gap have been identified, the appropriate development plans should be put in place soliciting input from the employee and the manager, and

(iv) the role of the mentor is to assist the protégé with developing the associated knowledge, skills and attitudes that will facilitate success and upward mobility.

Though the company drives the mentoring process to a large extent, employees also have input into their development plans. In order to be successful mentoring should be well structured and have the support of top management so that it becomes an entrenched practice within the organisation.

Clawson (1996:8) identifies certain activities contained in the mentoring process. These activities include the following:

(i) scanning the environment in which one operates and demonstrating proactive responsiveness to a rapidly changing environment,
(ii) focus on achieving results within the work environment,
(iii) focus on improving value-adding skills,
(iv) emphasis on sharing responsibilities rather on controlling, and
(v) transition towards an inclusive culture focusing on continuous improvement, relationships and results-orientation.

It is important that the mentoring process takes into account the context within which the business operates. This means that the mentoring process should be adaptable and flexible to changes which take place within the business environment. In addition, the process should encourage continuous improvement and be results driven.

Desimone *et al* (2002:490), identify three conditions, which underpin the success of mentorship programmes:

(i) the mentorship programme should be linked to the business strategy and existing human resources policies and practices so as to increase the chances of potential participants and senior managers actively participating and supporting the programme,
(ii) core components of the programme should be designed for effectiveness rather than expediency. These core components include: objectives, guidelines, training and education, communication strategy, monitoring and evaluation, and
(iii) voluntary participation and flexible guidelines are critical to success.

In order for mentorship to be successful it must have the support of top management and be in line with the strategic direction of the business. The mentoring process should be well structured and its objectives must underpin the business strategy. The skills and knowledge

developed through this process must benefit and improve employee performance and at the same time increase business performance.

2.5 FACTORS THAT HAMPER SKILLS DEVELOPMENT

Research shows that there are several factors which have been identified as hampering skills development. The following section discusses some of these factors in detail.

2.5.1 Trainee Characteristics

A trainee's personal characteristics influence how he or she learns new tasks and information. These characteristics include: trainability, personality and attitudes. Trainability focuses on the trainee's readiness to learn and combines the trainee's level of ability and motivation with his or her perception of the work environment. A trainee must have both the motivation and readiness to learn and if either of these are lacking, learning will not occur (Desimone, *et al* 2002:81). Desimone *et al* (2002:81), go on to state that if an employee perceives little support in the work environment for learning new skills, the employee will be less inclined to learn new skills and use them.

2.5.2 Training Design

Training design refers to adapting the learning environment to maximise learning and includes: the conditions of practice that influence learning and the factors that impact on the retention of what is learned (Desimone *et al*, 2002:84). In this regard employees should be given the opportunity to repeatedly perform the task that has been learned. An important aspect to guard against is that of over-learning where trainees practice beyond the point at which the task is mastered (Desimone *et al*, 2002:86)

With regard to retention, Desimone *et al* (2002:87), suggest that the meaningfulness of material is the extent to which it is rich in associations for the individual learner e.g. a new way of soldering circuits may be significant to an electronics expert but meaningless to a hairstylist. Therefore it follows that training should be designed to be meaningful to trainees so as to encourage learning and retention. The major drawback of overlearning is that it increases the time and expense of training (Desimone *et al,* 2002:85).

2.5.3 **The Training Environment**

Desimone *et al* (2002:215), identify the physical / work environment as being important to on-the-job training as the trainee needs to be comfortable enough in order to concentrate. Distractions such as noise and phone calls may interfere with the training process and the trainer must find ways to minimise such distractions.

The physical comfort level of the room is important as extreme temperatures can cause trainees to feel drowsy and a very cold room can reduce manual dexterity, thereby inhibiting learning (Desimone *et al*, 2002:217).

Other factors such as noise and poor lighting can also interfere with the learning process as trainees may find it difficult to concentrate and take notes (Desimone *et al,* 2002:217).

2.5.4 **Lack of Management Support**

Thomson (2004:15), states that lack of management support for training is a continuous issue raised in surveys. It is reported that managers experience difficulty in seeing what the benefits are for the organisation if they invest time and effort in harnessing employees' learning. In addition, managers have difficulty in developing measurable training criteria and express the view that time is limited for training activities (Thomson, 2004:15).

Another reason, which leads to the lack of management support is that management feels that talent is hard to come by and therefore it seems pointless training staff who will be poached by other organisations. In addition, management feels that investing in people is therefore pointless and this energy could be directed to outsourcing certain tasks and cutting costs further (Stefan, 2003:91).

The above-mentioned points are supported by Kubicek (2004:5), who states that many managers quote insufficient time and too much pressure as the greatest obstacles to learning. Most managers indicated that they do not have the support of their managers during the process of learning new skills.

In his article, Collins (2002:52), states that if management does not value the relationship between training of employees and the future security of the organisation, training then becomes compromised and training implementation becomes ineffective.

2.5.5 **Ineffective Training Practices**

According to Babb (2001:32), research conducted by the South African Department of Labour shows that while some organisations conduct excellent training, there are still many organisations that do little more than induction and task training. The research shows that there is still too much reliance on learning by copying what the next person is doing. This type of training practice results in both good and bad habits being passed on from worker to worker (Babb, 2001:32). Against the background of such training practices, there is unlikely to be much growth as a nation if new knowledge and skills are not injected into the workplace and if organisations continue training the way they have always done (Babb, 2001:32). New systems of training need to be introduced which pitch training against national and international standards, focusing on improved client service, productivity and quality enhancement (Babb, 2001:32).

Lange (2000:6), indicates that many organisations have often bypassed skills development initiatives and have relied on recruiting individuals with the required set of skills, which poses a barrier to developing skills in order to improve competitiveness. Organisations are now being compelled to develop their workforces through training yet many organisations still want to recruit a "final product". This poses a serious issue for individuals in the labour market, as many cannot afford to obtain the required skills (Lange, 2000:9).

2.5.6 **The Trainer**

Collins (2002:52), asserts that successful training calls for an understanding of motivates the adult learning. Therefore, trainers who lack this fundamental understanding are unable to make the training a meaningful learning experience.

According to Rosset (1997:23), trainers often do not prepare trainees for the real world in which they will attempt to apply what they have learned during training back on the job. Also, trainers often do not work on identifying performance barriers and discussing with trainees, their managers or co-workers how to overcome these barriers.

Subject-matter expertise refers to the mastery of the subject matter. Trainers who lack subject-matter expertise may rely heavily on a text book or other training materials and may not be able to explain how important concepts are applied to the job. In addition, trainers who lack the ability to design and implement training programmes may rely too heavily on a single

method of instruction, which may not be appropriate to the subject matter. Lastly, trainers who do not have the sound interpersonal skills may be unable to interact effectively with or motivate participants (Desimone *et al,* 2002:174).

2.5.7 **Lack of Training Evaluation**

Goldstein (1993:26), puts forward the view that few training programmes are evaluated. This poses the problem of not knowing whether the training achieved the intended success, as evaluation data has not been collected. The lack of evaluation data leaves no way to evaluate the effectiveness of the training programme or to provide information that could lead to improvements.

Bee (2000:42), supports the view that training evaluation is difficult to achieve in many organisations. One of the main reasons is that line managers are reluctant to contribute to training evaluation as they see training as one of the tools to deal with workplace problems. In addition, line managers view training evaluation as the role of the training expert. Bee (2000:42), takes this point further in expressing the view that line managers send their employees off to training and expect them to come back with changed behaviour. This means that line managers are not interested in the learning process and see no reason to understand what has occurred.

The lack of training evaluation can result in enthusiastic trainees doubting the value of the training and hence becoming reluctant to waste further time on what they see as an unproductive activity. This is due to employees not seeing any results or how their participation has helped (Bee, 2000:43).

The above discussion deals mainly with the factors that impact negatively on skills development. The next section looks at the factors that contribute positively to skills development.

2.6 **FACTORS THAT PROMOTE SKILLS DEVELOPMENT**

Through consulting various literary sources on the topic of skills development it was found that some of the main factors that promote skills development include:

2.6.1 **Goal Setting and Motivation**

Robbins (1996:224), asserts that the intentions to work towards a specific goal are a major source of work motivation.

According to Goldstein (1993:96), challenging goals lead to increased performance than easy goals, do-your-best goals or no goals. Goals influence task performance by directing energy, attention, effort and motivating the individual to develop relevant strategies to achieve goals.

Goals should be matched to the ability of the individual so that the person is likely to achieve the goals. Achievement of goals is important for the individual's self-efficacy, as this is how the individual will determine his or her ability to perform well on the task (Goldstein, 1993:96). Providing feedback to people on how they are progressing towards their goals is important in the goal setting process as feedback helps identify discrepancies between what has been done and what needs to be done (Robbins, 1996:224).

In order for goal setting to be effective, the individual has to accept the assigned goals and the organisation has to demonstrate support and commitment to the goal setting programme. (Goldstein, 1993:97)

2.6.2 **Needs Assessment**

Brown (2002:569), defines the process of needs assessment as "an ongoing process of gathering data to determine what training needs exist so that training can be developed to help the organisation accomplish its objectives." In the absence of a needs analysis, training results are usually subjective and may not be attributable to training (Brown, 2002:571).

According to Dolliver (1993:12), training needs assessment provides a road map to reach your training goal. Needs assessment determines the gaps, identifies the potential causes, considers if the problem can be solved by training and prioritises training needs and solutions (Dolliver, 1993:12).

Further to the above-mentioned point Brown (2002:569), identifies four main reasons for conducting needs assessment before developing training programmes:

(i) to identify specific problem areas in the organisation,

(ii) to obtain management support by ensuring that training directly affects what happens back on the job and that training improves performance on the job,
(iii) to develop data for evaluation as conducting a needs assessment prior to training provides a basis to measure the effectiveness of the programme, and
(iv) to determine the cost and benefit analysis of training. In this regard the major issue trainers need to address is, "what is the difference between the cost of no training versus the cost of training?"

Goldstein (1993:32), states that in order for a needs assessment process to be successful, it is important to gain the trust of all parties. This entails establishing communication with top management so as to gather support, time and effort of top management towards the successful completion of needs assessment process (Goldstein, 1993:34). It is also important to communicate with people within the organisation who will be involved in the needs assessment process so as to gather their support and commitment to the process (Goldstein, 1993:35).

2.6.3 **Trainee Readiness**

Goldstein (1993:86), states that in order for trainees to benefit form training they must be ready to learn, they must possess the particular background and experience necessary for the training programme and they must be motivated.

Supervisors perform an essential role in knowing their employees well enough to know what they need to perform their jobs better and when they are most ready to learn (Cottringer, 2003:6). In addition, he states that supervisors should be able to inform management about organisational barriers that will inhibit training and he advocates the understanding of the following readiness factors, which are associated with successful training outcomes:

(i) instrumentality refers to the degree to which trainees are concerned about the immediate applicability of information and the skills being taught,
(ii) scepticism is concerned with the degree to which the trainee exhibits a questioning attitude and demand proof,
(iii) resistance to change refers to the degree to which the trainee fears the process of moving into the unknown or the effects of the process,
(vi) attention span is concerned with the length of time a trainee can focus before significant inattention occurs,

(v) expectancy level is the level of quality and quantity that the trainee required before learning,

(vi) absorption level is the pace at which the trainee expects and can accept new information,

(vii) self-confidence refers to the degree to which the trainee has positive self-esteem and needs feedback, and

(viii) locus of control is the degree to which the trainee perceives he or she can actually implement the training successfully in the workplace.

Supervisors play a major role in the training process by understanding employees and knowing when they are ready for training and what factors can hamper the training process. In order to achieve this a supervisor must understand an employee's motivation level, self-confidence, ability to learn and absorb information and whether the employee believes he or she can apply the training back on the job. In addition, the supervisor must also be able to detect negative aspects from the employee, such as whether the employee has any resistance to the training.

2.6.4 **Selecting the Appropriate Training Method**

Training methods must be selected that will achieve maximum learning. In order to achieve this, training methods must facilitate the achievement of the training objectives and be in line with the available resources of the organisation such as time and money.

In addition, trainee characteristics such as trainee readiness and diversity should be taken into account so that the training method used is applicable to the audience, e.g. if literacy is a problem then less reading and writing intensive methods, such as videotapes, should be used (Desimone *et al*, 2002:181).

2.6.5 **The Role of the Trainer**

Goldstein (1993:136), states that one of the most important aspects in training is the role of the trainer, who could make the difference between a successful or unsuccessful learning experience.

Cottringer (2003:6), identifies the following aspects that trainers should understand and apply in order to deliver successful training:

(i) the trainer should possess the required technical competence, credibility, interpersonal skills and enthusiasm for the subject,
(ii) training outcomes must focus on specific behaviours that affect employee performance and the company bottom line,
(iii) remove barriers that diminish the quality of training and interfere with application back on the job,
(iv) develop excellent rapport building that increases trust and acceptance for the trainer and the training,
(v) implement accurate and practical evaluations that measure the actual effectiveness of the training, and
(vi) trainees learn differently and it is important for the trainer to adapt appropriate strategies to accommodate such differences.

Goldstein (1993:139), identifies certain characteristics, which successful trainers should posses, some of which include: good organisational skills, design the sequence of materials for maximum learning, emphasise conceptual understanding, set difficult but attainable goals and encourage trainees to use their talents to achieve

Covey (2004:14), challenges trainers to acknowledge that employees possess far more talent, capability and creativity than their present jobs require or allow. To this end Covey (2004:15), offers the following guidelines to successful training implementation:

(i) provide crystal clear outcomes and measures whereby trainees are expected to challenge the goals of learning, rework them and take ownership of the training goals,
(ii) obtain commitment from trainees by respecting the heart, mind and spirit of the trainee and inspiring them,
(iii) translate commitment into action by helping trainees align their own talents and passions to the task at hand,
(iv) facilitate the process by helping trainees identify the internal barriers, such as their attitudes and beliefs, which prevent the translation of training into action. In addition, assist trainees to identify the external barriers, such as systems and policies, which prevent the translation of training into action, and
(v) take accountability seriously and find meaningful ways for trainees to hold themselves accountable for their learning. Such initiatives include, arranging follow-up group meetings for trainees to share progress regarding the application of training

and trainers following up with trainees after training and tracking progress over a period of time.

Successful training needs to be well planned, with clear objectives, measures and feedback. The training process should be a joint process with input from both the trainee and trainer. Through this process trainees more readily accept commitment and take ownership for the training and trainers provide guidance and direction.

2.6.6 **Managing the Training Process**

Buckberry (2005:28), sets out certain guidelines, which facilitate the management of the training process and reduce the risk of making a mess of training and skills development:

(i) understand the skills and knowledge requirement of your organisation. In addition determine what learning means for the organisation and identify the issues that could result in the failure of training,

(ii) understand the various methods through which knowledge and skills can be created and delivered. In so doing consider the advantages and disadvantages of each method as well as the costs and benefits of each,

(iii) look at what other organisations have done, obtain advice, and reduce your risks on the back of others' learning. In addition, consider joining interest groups where problems and experiences can be shared, read magazines and case studies, analyse what has been done and assess the relevance to your organisation,

(vi) plan the training process in detail from the development phase to the delivery of training and finally the assessment of the training results,

(v) obtain the appropriate buy-in, commitment and investment, and

(vi) ensure effective communication so that people understand what to expect, why they are learning, how they will learn and what support is available to them.

A well-managed training process ensures that the necessary commitment and investments are available for training. Communicating the training plan and process to people involved in the training is an important step in managing the training process. It is also essential to follow a systematic approach in order to determine the kind of skills and knowledge required by the organisation, how the training could boost the results of the business or how the lack of training would impact on the business. It is also beneficial to understand the various training interventions available and source information from leaders in the field.

2.7 SUMMARY

It can be seen that training and development is a powerful tool in developing human potential as well enhancing organisational competitiveness.

This chapter has discussed the systematic approach to training, the predictors of training outcomes, the retention of skills, factors that hamper skills development and factors that promote skills development.

In order for training to be effective it needs to be systematic in its approach. This entails conducting a thorough training needs analysis, determining clear objectives, preparing training plans in line with the objectives, planning and organising the training and conducting evaluation of the training.

During the training process it is also important to pay attention to factors that pertain to the individual and the organisation, which account for differences in training outcomes. These factors are categorised as follows: what trainees bring to the training setting, training motivation, pre-training environment and climate, organisational features and the transfer of training.

Training and development is a time consuming and expensive exercise. Organisations therefore need to ensure that they benefit from the investment made in training. To this end, every effort needs to be made to ensure that the skills people have been trained in are retained and transferred to employees within the organisation. Important skills retention strategies include: career management and career development, performance management, coaching and mentoring.

Organisations need to be mindful of the factors that can hinder effective skills development and take proactive steps to ensure these factors are eliminated as far as possible. Factors which have been identified that hinder skills development include: trainee characteristics, training design, the training environment, lack of management support, ineffective training practices, the skills of the trainer and lack of training evaluation.

Lastly organisations need to pay attention to factors that promote skills development and ensure that these factors support the training process. These factors include: goal setting and motivation, needs assessment, trainee readiness, selecting the appropriate training method, clarifying the role of the trainer and managing the training process.

CHAPTER 3

SKILLS DEVELOPMENT IN SOUTH AFRICA

3.1. INTRODUCTION

The following chapter presents a framework to understand skills development in South Africa. This framework provides an understanding of skills development in South Africa through discussing various aspects pertaining to skills development.

The background to skills development in South Africa is discussed and vital information is provided which assists in understanding how and why certain skills shortages exist today.

Skills development legislation and strategies are also discussed as well as how these two aspects impact on skills development presently.

Employment equity issues are also discussed so as to provide an understanding of how these factors impact on skills development.

An overview of skills development within the Manufacturing, Engineering and Related Services Sector is also be presented. This overview puts into context the environment in which the research was conducted.

3.2 BACKGROUND TO THE STATE OF SKILLS IN SOUTH AFRICA

According to Hunter (2002:35), there is a general perception that there is a skills shortage within management and technical disciplines in South Africa. The two main reasons include:

- the education system does not produce technically qualified people, and
- many skilled people have left the country due to reasons such as increasing crime rates and better earning potential in other countries.

A skills shortage is defined as a situation in which employers are unable to fill or experience difficulty in filling vacancies in a specific occupation or specialisation due an insufficient number of available workers with the required qualifications and experience. Such shortages

are defined by determining the supply of skills relative to the demand for workers with such skills (Department of Labour, 2002:9).

A study carried out by the Human Sciences Research Council in 1999 indicated that there was a lack of skilled people in the following professions: engineers, technicians, information technology specialists, accountants and managers (Hunter, 2002:35). This shortage of skills still exists within these professions as indicated by a study conducted by the Department of Labour in 2002 where it showed that the occupations with the greatest skills shortage were managers, engineers, technicians, accountants and information technology specialists (Department of Labour, 2002:9). According to Jinabhai (2005:86), current projections by the National Skills Authority show that here are only 3 million skilled people in South Africa compared the 7 million semi/unskilled people. In his article Jinabhai (2005:86), also states there is a shortage of professional managers and technicians in South Africa compared with industrialised countries.

One of the issues highlighted as influencing the supply of skills in South Africa is the studies that people take up at tertiary levels. Evidence indicates that there is still a strong bias towards the humanities in that 129 000 university students graduated within engineering, science and technology compared to the 304 000 who graduated in the humanities studies (Department of Labour, 2002:5).

According to Hunter (2002:36), evidence indicates that the strength of a country's economy depends to a large extent on the level of education of its population and the type of subjects which students study. Rapid advances in technology throughout the world have necessitated the need for a technologically advanced workforce; therefore there is an increasing demand for technically educated people in the fields of mathematics, science and business subjects (Hunter, 2002:36). This is supported by Kannin-Lovers (2000:233), who states that from the year 2000, the demand for technically skilled people will continue to grow as more jobs become technical in nature.

It is further stated by Hunter (2001:36), that the previous government did not do enough to educate and train local people in that the education in the country is still inadequate in comparison to the needs of the country for well educated people. The overriding problem in the South African education system is that the average level of education for the population is

7 years of schooling compared to developed countries where the average level of education is approximately 11 years of schooling. In addition, in the traditional African schools there is serious lack of science, mathematics and business education (Hunter, 2001:37).

Many South African organisations consider training and development as vital in addressing the skills gaps and developing capacity to meet competitive demands (Horwitz, et al, 2002:1105). According to the Department of Labour (2002:1), the South African government recognises that in a global economy, the competitive position of a country is determined by the quality of its human resources. Therefore in order to make South Africa more globally competitive the skills profile of the labour market has to be raised hence several skills development strategies and human resources development strategies have been put in place.

These strategies will be discussed in the following section.

3.3 SKILLS DEVELOPMENT LEGISLATION AND STRATEGIES

The South African government is compelled to make changes in the training system, which are supportive of the economic and social changes the country is facing. To this end the training policy will go hand in hand with legislation so as to create an enabling mechanism, which will regulate the actions and inputs of those involved in the training market (Net *et al*, 2001:454).

The Acts, which will be discussed, are the Skills Development Act (1998) and the Skills Development Levies Act (1999). In addition, attention will also be drawn to the national skills development strategy and the various frameworks and institutions, which implement and oversee this skills development strategy and are linked to the Skills Development Act.

3.3.1 The Skills Development Act

3.3.1.1 The Purpose of the Skills Development Act

According to Nel *et al* (2001:455), the Skills Development Act aims to develop the skills of the South African workforce, increase the quality of working life for workers, improve the productivity of the workplace, promote self-employment and improve the delivery of social services. With regard to the role of employers, the Act aims at encouraging employers to use

the workplace as an active learning environment, to provide opportunities for new entrants into the market place to gain work experience and to improve the employment prospects of previously disadvantaged people through education and training (Nel, *et al*, 2001:455).

In their article Keightley and Babb (1999:46), state that the Act will provide an institutional framework to devise and implement national, sector and workplace strategies to develop and improve the skills of the South African workforce, to integrate these strategies within the National Qualifications Framework and to provide learnerships that lead to recognised occupational qualifications.

According to Blumental (2004:9), the Skills Development Act is not the answer to the unemployment crisis in South Africa, but it is the supply-side mechanism in that it enables business to expand its workforce, properly upgrade and re-skill existing workers.

The Skills Development Act No.97 of 1998 (chapter 1, section 2) states that the purpose of the Act is focussed on the following activities:

(i) to develop the skills of the South African workforce so as to improve the quality of life of workers, to improve the productivity in the workplace and the competitiveness of employers, to promote self-employment and improve the delivery of social services,
(ii) to increase the levels of investment in education and training in the labour market and to improve the return on investment,
(iii) to encourage employers to use the workplace as an active learning environment,
(iv) to provide employees with the opportunities to acquire new skills and to provide opportunities for new entrants to the labour market to gain work experience,
(v) to encourage workers to participate in learnership programmes,
(vi) to improve the employment prospects of people previously disadvantaged by unfair discrimination and to redress those disadvantages through training and education,
(vii) to ensure the quality of education and training in and for the workplace,
(viii) to assist work seekers find work, to assist retrenched workers re-enter the job market and enable employers to find qualified employees, and
(ix) to provide and regulate employment services.

It is further stated in the Skills Development Act No.97 of 1998 (chapter 1, section 2) that the above-mentioned purposes are achieved through the following measures:

(i) the establishment of institutional and financial frameworks which include the National Skills Authority, the National Skills Fund, the Skills Development Levies Act, SETA's, labour centres and the Skills Development Planning Unit,

(ii) encouraging partnerships between public and private sectors of the economy to provide education and training in and for the workplace, and

(iii) co-operating with the South African Qualifications framework.

Skills development can only be successfully implemented through partnerships between the private and public sector that have the ability and means to provide education and training in and for the workplace. There are other institutions, which are discussed below, that play a major role in the successful implementation of skills development.

3.3.1.2 **Key Frameworks and Institutions Linked to the Skills Development Act**

The following frameworks and institutions oversee skills development:

(i) The National Skills Authority (NSA)

According to the Skills Development Act No.97 of 1998 (chapter 2, section 5), this institution advises the Minister on national skills development policy, national development strategy, provides guidelines on the implementation of the national skills development strategy and the allocation of subsidies from the National Skills Fund. In addition, the NSA liases with SETA's on the national skills development policy and the national skills strategy. The NSA also reports to the Minister on progress made with regard to the implementation of the national skills development strategy and conducts investigations on any matters arising out of the application of this Act.

(ii) Sector Education and Training Authorities (SETA)

The Skills Development Act No.97 of 1998 (chapter 3, section 10), states that the purpose of a SETA is to develop sector skills plans within the framework of the national skills development strategy and to implement its sector plans by establishing learnerships, approving workplace skills plans and allocating grants to employers, education and training providers and workers, and monitoring education and training in the sector. SETA's also focus on promoting learnerships through identifying

workplaces for practical experience, supporting the development of learning materials, improving the facilitation of learning and assisting in the conclusion of learnership agreements. Other areas of focus of SETA's include registering learnership agreements, collecting and disbursing skills development levies in the sector, liasing with the NSA on national skills development policy, national skills development strategy and sector plans. Lastly, SETA's are responsible for liasing with the Department of Education and any education body to improve information with regard to employment opportunities between education and training providers and the labour market.

(iii) Learnerships

The Skills Development Act No.97 of 1998 (chapter 4, section 16) states that leanerships may be established by a SETA under the following circumstances: the learnership must consist of a structured learning component, the learnership includes practical work of a specified nature and duration, the learnership leads to a qualification registered with the South African Qualifications Authority and is related to an occupation, and the intended learnership is registered with the Director-General in the prescribed manner.

(iv) The Skills Planning Unit

It is stated in The Skills Development Act No.97 of 1998 (chapter 6, section 22), that the purpose of the Skills Planning Unit is to research and analyse the labour market in order to determine skills development needs for South Africa, each sector of the economy and organs of state. This planning unit also assists in the formulation of the national skills development strategy and sector skills development plans. In addition the Skills Planning Unit provides information on skills to the Minister, the NSA, SETA's, education and training providers and organs of state.

(v) The National Skills Fund

According to the Skills Development Act No.97 of 1998 (chapter 7, section 27), this fund is credited with 20% of the skills development levies, interest and penalties collected in respect of every SETA, money appropriated by Parliament, interest earned on unexpended balances in the fund, donations to the fund and money received from

other sources. The money in the fund may only be used for projects identified in the national skills development strategy as national priorities.

(vi) Labour Centres

The Skills Development Act No.97 of 1998 (chapter 6, section 23) states that the functions of Labour Centres include the provision of employment services for workers, employers and training providers. Labour Centres are also responsible for registering work-seekers, registering work opportunities, assisting people enter special education and training programmes, to find employment, start income-generating projects and to participate in special employment programmes.

(vii) The National Qualifications Framework (NQF)

According to Nel *et al* (2001:451), the NQF provides a framework on which standards and qualifications, which are agreed to by education and training stakeholders in South Africa, are registered. Through the application of this framework education and training is made more flexible, efficient and accessible (Nel, *et al*, 2001:451).

Fenton (1996:35), describes the key objectives of the NQF as the recognition of prior learning, the upliftment of people who were previously disadvantaged in terms of education and the portability of skills across industry.

A vital building block of the NQF is termed a unit standard, which describes the outcomes of learning and the standard of performance that must be met in order for an individual to be deemed competent in a specific area of skill or knowledge (Foster, 1998:48).

According to Foster (1998:48), unit standards replace the traditional job description and serves as an accurate document, which is outcomes based. This process allows job candidates to be assessed on the actual skills or competencies required to perform the job as opposed to the academic qualifications alone. This tool proves useful in recruitment and selection. Through the application of unit standards it is also possible to evaluate a persons prior learning and skills against an approved national standard. This is valuable as people learn many things outside of formal education and these standards provide a framework to obtain formal recognition for these skills.

The NQF is considered valuable in that it facilitates the development of competency standards and provides a vehicle for the integration of training and development (Fenton, 1996:35).

(viii) The South African Qualifications Authority (SAQA)

The SAQA came into being through the SAQA Act (Nel *et al*, 2001:452). According to Nel *at al* (2001:458), SAQA provides a comprehensive national framework consisting of national standards to improve the quality and relevance of training. This framework is valuable in that it alleviates the problem created by the vast variety of training qualifications and pathways that are available on the training market, which make it difficult for learners to judge the credibility and market value of a course. In addition employers also find difficulty in determining the value of qualifications achieved by trainees.

They also point out that the main function of SAQA is to oversee the development and implementation of the NQF.

One of the core requirements of SAQA, is that training providers have to have documented quality management systems. In order to ensure that training providers are maintaining the quality of registered standards and qualifications, SAQA then accredits Education and Quality Assurer Bodies (ETQA's) to monitor and audit the processes through which learners are to receive formal recognition for achieving NQF qualifications and standards (Patrick, 1999:47).

According to Babb (1999:44), a quality management system provides a framework which allows training organisations to assess the quality of their performance against relevant standards and gain recognition of achievement for meeting such standards. Babb (1999:44), further states that the organisations reap benefits by implementing quality management systems in that it provides improved quality of products and services, a significant marketing advantage, an option to benchmark against other training providers and acknowledgement of being a quality supplier, which is beneficial when involved in competitive tendering.

3.3.2 **The Skills Development Levies Act**

According to Nel *et al* (2001:457), the Skills Development Levies Act, 1999 provides a regulatory framework to address the current low level of investment by firms in training. This Act establishes a compulsory levy for the purpose of funding education and training as outlined in the Skills Development Act No.97 of 1998.

The levy was introduced on the basis of 0.5% of an employer's payroll per month, which was effected 1 April 2000 and thereafter 1.0% of an employer's payroll, effective 1 April 2001 (Nel *at al*, 2001:457).

3.3.3 **The National Skills Development Strategy (NSDS)**

3.3.3.1 **Background to the NSDS**

According to the Department of Labour (2004:1), the intention of the NSDS is to radically transform education and training in South Africa by improving the quality and quantity of training so as to support increased competitiveness of industry and improved quality of life for all South Africans. The NSDS was established on the advice of the NSA. It is required by the Skills Development Act No.97 of 1998 and its implementation provides guidance on the spending of the levy income required under the Skills Development Levies Act 1999 (Department of Labour, 2004:1). The Department of Labour (2004:1), states that the NSDS aims to address the structural problems of the labour market inherited from the past and transform the South African labour market from one with a low skills base to one characterised by rising skills and commitment to lifelong learning.

According to the Department of Labour (2005:1), the mission of the NSDS is to contribute to sustainable development of skills growth, development and equity of skills development institutions by aligning their work and resources to the skills needed for effective delivery and implementation.

The Department of Labour (2005:2), cites the following principles on which the NSDS is premised:

(i) support economic growth for employment creation and poverty eradication,

(ii) promote productive citizenship for aligning skills development with national growth and development,

(iii) accelerate broad based black economic empowerment and employment equity,
(iv) support, monitor and evaluate the delivery and quality assurance systems necessary for the implementation of the NSDS, and
(v) advance the culture of excellence in skills development and lifelong learning.

The NSDS aims to achieve sustainable skills development through achieving economic growth and job creation, accelerating employment equity and entrenching a culture of lifelong learning. The objectives of the NSDS are discussed below.

3.3.3.2 **The Objectives of the NSDS**

The Department of Labour (2004:1), states that the NSDS takes forward the broad objectives of the Skills Development Act No.97 of 1998 by setting clear and focused objectives. The aim of these objectives is to move the country forward significantly towards the achievement of the overall objectives of the skills development legislation (Department of Labour, 2004:1).

The Department of Labour (2005:3), outlines the objectives of the NSDS for the period 2005 to 2010 as follows:

(i) Objective One
This objective focuses on prioritising and communicating critical skills for sustainable growth, development and equity. The aim of this objective is that skills development must support national and sectoral growth, development and equity priorities.

(ii) Objective Two
The focus of this objective is to promote and accelerate quality training for all in the workplace.

(iii) Objective Three
This objective aims to promote employability and sustainable livelihoods through skills development.

(iv) Objective Four

The aim of this objective is to assist designated groups, including new entrants to participate in accredited work, integrated learning and work-based programmes to acquire critical skills to enter the labour market and self-employment.

(v) Objective Five

This objective focuses on improving quality and relevance of provision. The aim of this objective is to provide infrastructural development, trainer up-skilling, curriculum and materials development and learner support initiatives.

From the above discussion it can be seen that the objectives of the NSDS focus on sustainable skills development through accelerating training in the workplace, providing new entrants into the job market with critical skills, providing skills training for self-employment as well as providing facilities and material for training.

The above section deals with issues related to the reasons behind the skills shortages in South Africa, the legislation and strategies in place to deal with these skills shortages. The next section provides an understanding of how employment equity relates to skills development.

3.4 EMPLOYMENT EQUITY, AFFIRMATIVE ACTION AND SKILLS DEVELOPMENT

3.4.1 Background to Skills Development in Relation to Employment Equity

The historical imbalances of the past have constrained skills development amongst the majority of the population. The apartheid legacy in South Africa created racial segmentation of the labour market in respect of access to higher-level technological skills (Horwitz, *et al*, 2002:1105). Black access to trades and skilled work was legislatively prohibited by job reservation in favour of white employees, such as Section 66 of the then Industrial Conciliation Act (1956) and the Mines and Works Act. These Acts were repealed in 1980, however, Black progress into skilled and managerial work has been slow (Horwitz, *et al*, 2002:1107).

According to the Department of Labour (2002:2), a study conducted within the manufacturing sector showed that 80% of managers were white with Africans concentrated in the lower

skilled occupations such as operators and labourers, which indicated a representation of 70% and 74% respectively. In his article Jinabhai (2005:86), supports the above statement in that recent surveys have revealed a scarcity of competently skilled black managers and this trend is likely to reach critical mass in the 21st century.

In the light of the skewed nature of these statistics, the motivation for including employment equity targets into the national skills development strategies can be clearly understood (Department of labour, 2002:4)

3.4.2 **Understanding Employment Equity and Affirmative Action**

Hunter (2002:262), describes employment equity as the employment of people in a fair and equitable manner compared to the approach of the past in South Africa. This means that all people should have a fair chance of being selected for positions and should receive training, development, support and be remunerated according to the job requirements and not on race, religion or gender (Hunter, 2002:262).

According to Nel *et al* (2001:178), the concept of employment equity aims to undo huge disparities in the labour market brought about through apartheid. In this case, equity is defined as, "present fair discrimination to prevent future unfair discrimination" (Nel *et al,* 2001:178).

Hunter (2002:262), describes affirmative action as the positive action taken by organisations to rectify the inequalities, which have resulted from past discriminatory practices. This includes all employment practices such as recruitment, selection, training, development and remuneration. This approach focuses on giving people from previously disadvantaged groups preferential treatment so that in time an equitable employment situation can be achieved (Hunter, 2002:262).

Nel *at al* (2001:178), maintain that affirmative action is a concept closely related to employment equity and the two related concepts have now been formulated as law in the form of the Employment Equity Act No.55 of 1998. They point out that affirmative action is viewed as a transitional method to redress the imbalances created by domination.

According to Nel et al (2001:179) the Department of Labour presents the need for employment equity based on the following factors:

(i) disparities exist in the labour market in employment, occupation and income,

(ii) pronounced disadvantages exist for certain categories of people, and

(iii) the repealing of discriminatory law is not enough to redress the disadvantages which exist.

Employment equity is an intervention to deal with the disparities which exist from blacks having been historically disadvantaged. Employment equity mainly deals with the disparities that may exist in the job market and workplace.

3.4.3 **The Employment Equity Act**

Nel *et al* (2001:179) expresses that the main purpose of the Employment Equity Act No.55 of 1998 is to:

(i) promote equal opportunity and fair treatment in employment through the elimination of unfair discrimination, and

(ii) implement affirmative action to redress the disadvantages in employment experienced by designated groups.

According to Nel *et al* (2001:178) the Employment Equity Act No.55 of 1998 spells out the following affirmative action strategies, which organisations are compelled to adhere to:

(i) the identification and removal of barriers to employment equity,

(ii) increase in workforce diversity,

(iii) make adjustments for reasonable accommodation so that people from designated groups enjoy equal opportunities and are equitably represented in the workforce,

(iv) ensure equitable representation of suitably qualified people,

(v) retain, train and develop skills, and

(vi) put in place measures such as preferential treatment and numerical goals.

Employment equity legislation compels employers to identify and remove discriminatory barriers that hamper the progress of designated groups within organisations. This legislation also forces an employer to put measures in place which focus on the equitable representation of race groups and ensure the training and retention of designated groups.

3.4.4 **Employment Equity and Its Link to Skills Development**

As mentioned above, the Employment Equity Act No.55 of 1998 requires organisations to set goals, devise plans and implement appropriate training measures to address affirmative action. This requirement is underpinned by the Skills Development Act No.97 of 1998, which requires companies to appoint Skills Development Facilitators, commit to training plans and pay a training levy (Fenwick, 2001:32).

According to Mdladlana (2003), skills development and employment equity are the cornerstones of good human resources practice in South Africa in that together they contribute towards enhanced performance of enterprises and improvement in the quality of work life. These two concepts, though they are linked, are not the same in that a culture of learning and education in organisations is necessary irrespective of the workforce demographics. However, in the South African context, given the legacy of institutionalised segregation of labour, which we are in the processing of redressing, skills development is an essential component to achieving employment equity (Mdladlana, 2003).

Many organisations experience a shortage of appropriately skilled people from designated groups. The way to deal with this challenge is to link employment equity and skills development (Madladlana, 2003).

According to MERSETA (2005), the link between employment equity and skills development is illustrated by employers being required to complete an employment equity report, which forms part of the skills development report. In this regard companies are required to explain how the training that has been implemented in their respective organisations has made a contribution towards achieving the employment equity targets in their respective organisations.

3.4.5 **Skills Development Practices that Promote Employment Equity**

The development of employees is an important concept in achieving equitable representation of black people in all occupations and at all levels of the workplace over a period of time (Folscher, 2005:18). Furthermore he identifies certain skills development initiatives, which facilitate the successful implementation of employment equity:

(i) promote skills development by spending at least 3% of payroll over and above the skills development levy on education and training,

(ii) ensure that at least 3% of black employees are on learnerships at any given time,

(iii) implement personal development plans to increase the number of black managers at all occupational levels within the organisation, and

(iv) ensure employment equity plans focus on achieving equitable representation in all occupational categories and levels within the workforce.

The government has identified mentoring as one of the skills development practices that could be applied to drive skills development and open up opportunities to people whose career growth was limited in the past. (Fenwick, 2001:32). Mentoring is considered an effective strategy, which promotes the transfer of skills, improves employees' knowledge base and encourages life-long learning (Fenwick, 2002:32). In this regard it is therefore necessary that mentorship programmes are structured in line with organisations' employment equity plans and facilitate the achievement of organisations' employment equity goals (Wingrove, 2002:10).

3.5 SKILLS DEVELOPMENT IN THE MANUFACTURING, ENGINEERING AND RELATED SERVICES SECTOR

3.5.1 The Manufacturing, Engineering and Related Services Sector at National Level

3.5.1.1 Composition

The Manufacturing, Engineering and Related Services sector consists of five sub-sectors known as:

(i) auto manufacturing

(ii) metal and engineering

(iii) motor retail and components manufacture

(iv) new tyre manufacture

(v) plastics

The total number of companies within the Manufacturing, Engineering and Related Services sector is 26 698 with most companies concentrated in Gauteng (44%), Western Cape (18%) and Kwa-Zulu Natal (17%) (MERSETA, 2004:7)

3.5.1.2 **Overview of Skills Development Issues**

Rapid technological advancement and globalisation have created many new opportunities for companies operating in the Manufacturing, Engineering and Related Services Sector, who can supply competitive metal products (MERSETA, 2004:14). It is acknowledged by MERSETA that this process requires a highly skilled workforce, which this sector lacks. However, they accept that globalisation will impact on skills development, retention and mobilisation of employee resources. (MERSETA, 2004:21).

According to the MERSETA (2004:42), the rate of skills development within the Manufacturing, Engineering and Related Services Sector has been very slow and has not kept up with the sector's rapid growth and technological advancement. The main reason for the inadequate skills development is the fact that 85% of this sector is comprised of small and medium organisations who do not have enough capital to conduct training (MERSETA, 2004:42).

This sector battles to attract and retain young highly skilled people. The skills shortage promotes a highly mobile workforce and encourages employees to move from one employer to the other so as to seek better opportunities and remuneration (MERSETA:19). The main reasons attributed to the sector battling to attract and retain young, skilled people include: limited opportunities for career growth, the sector does not have attractive work conditions and benefits, poor remuneration and poor management style (MERSETA, 2004:19).

According to MERSETA (2004:15), a large portion of this sector's workforce will retire in a few years time and organisations within this sector will experience difficulty in filling technical, specialist and management vacancies as there is insufficient supply of such skills compared to the increasing demand. Vacancies are difficult to fill as applicants do not meet the minimum entry requirements in terms of educational qualifications and experience. Secondly, there is a limited skills pool of qualified and experienced black candidates and the employment equity legislation has placed pressure on organisations to increase the representation of employees from designated groups within their organisations. Lastly, the cost of scarce skills is very high in that applicants whose skills are in demand, often demand high salaries and benefits. Many smaller organisations are financially unable to compete for these skilled people (MERSETA, 2004:32)

The demand for skills within the Manufacturing, Engineering and Related Services Sector is influenced by the following factors:

(i) rising competitive pressure,

(ii) the pace and sophistication of technological change, and

(iii) new work organisation and job requirements.

The supply of skills within the Manufacturing, Engineering and Related Services Sector is influenced by the following factors:

(i) the inability to effectively apply skills,

(ii) a lack of skills pool,

(iii) reduced training, and

(iv) the lack of qualified and experienced candidates, particularly people from designated groups.

The impact of HIV/AIDS on the sustainability of skills development is also becoming more of a challenge for the Manufacturing, Engineering and Related Services Sector (MERSETA, 2004:15). The most significant losses of labour due to HIV and AIDS will be concentrated in the period 2010 to 2015 and will be greatest amongst the people in their mid-thirties (MERSETA, 2004:26). Accordingly a skills gap in this age group is predicted and this does not bode well for the stable transfer of skills and knowledge, given the fact that a large portion of this sector's workforce will retire in a few years time (MERSETA, 2004:27).

3.5.1.3 **Scarce Skills**

The Manufacturing, Engineering and Related Services Sector has the greatest shortage of skills in the technical and management disciplines (MERSETA, 2004:43). According to the MERSETA (2004:43), the technical disciplines have skills shortages in the following job categories:

(i) engineers, such as mechanical, electrical, chemical civil, process and materials,

(ii) technicians, such as draughtsman, instrumentation and control and electronic repair and maintenance,

(iii) trades, such as welders, fitters, electricians and millwrights, and

(iv) management, such as production managers, information technology mangers and project managers.

At management level there is also a great lack of managers who posses the combination of business, technical and people management skills (MERSETA, 2004:43).

Qualified and experienced black candidates with technical and management skills are very scarce and those with the available skills are very difficult to retain (MERSETA, 2004:44).

3.5.2 The Manufacturing, Engineering and Related Services Sector within Kwa-Zulu Natal (KZN)

3.5.2.1 Composition

The Manufacturing, Engineering and Related Services sector within KZN consists of the following sub-sectors:

(i) auto manufacturing,
(ii) motor retail and components manufacturing,
(iii) metal and engineering,
(iv) new tyre manufacturing, and
(v) plastics.

The total number of companies within the Manufacturing, Engineering and Related Services sector in KZN is 4427, which represents 17% of the companies nationally (MERSETA, 2004:7) and 178 employ 50 or more people, which indicates that the vast majority of companies in this sector are small (employ less than 50 people).

According to the MERSETA (2004:10), sub-sectors with the largest representation are plastics (20%), motor retail and component manufacture (17%) and metals and engineering (16%).

3.5.2.2 Skills Development Issues in KZN

During the research it was discovered that there is a lack of information available with regard to skills development issues by province. Therefore, very limited information was obtained with regard to the skills development issues in KZN.

The only available information on skills development in KZN indicates that of the 4427 member companies in KZN, 1036 (23.4%) claimed skills grants (MERSETA, 2004:7). According to Babb (2000:32), in order to claim skills grants an organisation must be actively involved in skills development by having implemented the following:

(i) appointed a skills development facilitator to facilitate the implementation and management of the Workplace Skills Plan,

(ii) the employer must prepare and submit a Workplace Skills Plan,

(iii) progress must be shown towards the implementation of the Workplace Skills Plan, and

(iv) efforts must be made to address specific skills shortages.

The percentage (23.4%) of companies claiming skills grants in KZN seems low given the fact that the objective is to have 100% of companies claiming skills grants. However, there could be companies that are carrying out training but are not claiming skills grants.
According to the MERSETA office, Johannesburg, there is no skills development report for the Manufacturing, Engineering and Related Services Sector for KZN. Research on skills development conducted by the MERSETA was drawn from all nine provinces in South Africa and only a national report has been compiled. There was no clear indication from the MERSETA office, Johannesburg, whether a provincial report on skills development will become available in the near future.

Due to the absence of information on skills development issues in KZN and the fact that the national skills development issues were compiled from skills development issues at provincial levels, the researcher would then infer that the skills development issues indicated nationally are indicative of the skills development issues within KZN. This means that KZN probably experiences similar problems as indicated nationally, which are summarised as follows:

(i) a slow rate of skills development,

(ii) difficulty in attracting and retaining young, highly skilled people,

(iii) a lack of technical and management skills,

(iv) an insufficient supply of technical, specialist and management skills compared to the increasing demand,

(v) the growing impact of HIV and AIDS on skills development in KZN, and

(vi) the scarcity of qualified and experienced black candidates with technical and management skills.

3.6. SUMMARY

This chapter provides an understanding as to why certain skills shortages exist today. In addition, information is also presented on disciplines that have the greatest skills shortages.

An overview of the legislation and skills development strategies, which are aimed at addressing these skills shortages, is also presented in this chapter. Emphasis is also placed on the national actions that are in place to aggressively transform education and training in South Africa.

An understanding of employment equity and affirmative action is also provided. Attention is also drawn to the purpose of the employment equity legislation as well as the affirmative action strategies contained in this legislation. The link between employment and skills development is also highlighted. This link shows that in the South African context skills development is an essential component to achieving employment equity.

This chapter also provides an overview of skills development activities within the Manufacturing, Engineering and Related Services Sector at a national level and within Kwa-Zulu Natal. This overview puts into context the environment in which the field study took place. Information is provided on the composition of the sector, the skills development issues within the sector and the scarce skills experienced by the sector.

The following chapter deals with the field study which discusses in details how the research was carried out.

CHAPTER 4

FIELD STUDY

4.1 INTRODUCTION

This chapter outlines the following aspects of the field study:

(a) the study site,

(b) the purpose of the study,

(c) the overall research problem,

(d) identification of the research questions,

(e) identification of the hypotheses,

(f) the research method used,

(g) the research design applied,

(h) qualitative versus quantitative research methods,

(i) description of the population of the study,

(j) explanation of the sampling technique used,

(k) data collection method and data collection instrument used,

(l) the data analysis methods applied, and

(m) the tests carried out to check whether the data is parametric or non-parametric,

4.2. THE STUDY SITE

This study was conducted within the Manufacturing, Engineering and Related Services Sector organisations within Kwa-Zulu Natal (KZN).

4.3 PURPOSE OF THE STUDY

The main purpose of the study was to investigate and analyse the reasons associated with the shortage of skills and the factors influencing the rate of skills development within the Manufacturing, Engineering and Related Services Sector. In addition, the study aims to identify the roles that organisations within the sector can play in order to address this skills shortage and improve skills development so as to ensure an ongoing availability of skills for the future.

4.4. OVERALL RESEARCH PROBLEM

There is a shortage of skills in the Manufacturing, Engineering and Related Services Sector,

4.5 RESEARCH QUESTIONS

The following questions were researched:

4.5.1 What are the reasons behind the shortage of key skills in the Manufacturing, Engineering and Related Services Sector?

4.5.2 What is the extent of the shortage of skills in the Manufacturing, Engineering and Related Services Sector?

4.5.3 In which occupational categories are there shortages of skills in the Manufacturing, Engineering and Related Services Sector?

4.5.4 To what extent will the shortage of skills hamper growth within the Manufacturing, Engineering and Related Services Sector?

4.5.5 What is the extent of skills development within the Manufacturing, Engineering and Related Services Sector?

4.5.6 What factors influence the rate of skills development within the Manufacturing, Engineering and Related Services Sector?

4.5.7 What effect will the retirement of skilled workers have on the Manufacturing, Engineering and Related Services Sector?

4.5.8 What are the reasons behind young, highly skilled people being highly mobile within the Manufacturing, Engineering and Related Services Sector?

4.5.9 What are the reasons why the Manufacturing, Engineering and Related Services Sector finds difficulty in attracting and retaining young, highly skilled people?

4.5.10 What do respondents feel organisations can do to minimise the shortage of key skills and improve skills development so as to ensure a sustainable skills base for the future which could retard growth in certain parts of this sector .

4.6 HYPOTHESES

The study identified the following hypotheses:

4.6.1 There is a shortage of skills in the Manufacturing, Engineering and Related Services Sector.

4.6.2 The shortage of skills in the Manufacturing, Engineering and Related Services Sector could hamper growth in certain parts of the sector.

4.6.3 There is a slow rate of skills development in the Manufacturing, Engineering and Related Services Sector.

4.6.4 A large portion of this sector's skilled workforce will retire in a few years time and the skills they possess will be difficult to replace.

4.6.5 Young, highly skilled people are highly mobile within the Manufacturing, Engineering and Related Services Sector.

4.6.6 The Manufacturing, Engineering and Related Services Sector finds difficulty in attracting young, highly skilled people

4.6.7 The Manufacturing, Engineering and Related Services Sector find difficulty in retaining young, highly skilled people

4.7. THE RESEARCH METHOD

The research method used in this study was the survey method. Dyer (1995:88), explains the survey method to be a process used to collect data from a large dispersed group of people.

A descriptive survey is used in this study. A descriptive survey aims to establish the features of a particular group and to provide a description of the group in relation to certain specific characteristics, which the group possesses. This type of research aims to enquire about a group's motives, attitudes and opinions towards a particular subject, with the assumption that this information will, to some degree, apply to a wider group with similar characteristics (Dyer, 1995:90).

Neuman (2000:250), identifies the main advantage of survey research methodology as being a cost-effective method to sample many respondents over a vast area.

Neuman (2000:251), identifies the main disadvantage of survey research methodology as being complex in that it involves co-ordinating many people and can involve several steps. In addition the administration requires organisation and accurate record keeping. This can become time consuming and somewhat expensive.

This disadvantage was overcome by careful planning and computerising the survey results.

4.8 THE RESEARCH DESIGN

Dyer (1995:41), states that the research design specifies the procedures to be followed, the information to be collected, questionnaires that have to be constructed, the respondents who have to be sourced and the data to be collected.

Christensen (1997:311), states that research design refers to the outline, plan or strategy used to investigate the research problem. Determining the most appropriate research design requires a thorough understanding of the research problem and hence choosing the appropriate design that will provide answers to the research problem (Christensen, 1997:341).

4.9. QUALITATIVE VERSUS QUANTITATIVE RESEARCH

This research project was undertaken using both qualitative and quantitative research methods.

Qualitative research consists of verbal descriptions of behaviour and experience, which result from observations, interpretations and analysis. The qualitative approach allows the researcher to capture information, which might otherwise be difficult or impossible to express by using quantitative means, such as subjective experiences and detailed patterns of behaviour (Dyer, 1995:261).

Quantitative research consists of information represented in the form of numbers, which represents the results of a measurement process applied to certain variables (Dyer, 1995: 261). Quantitative research offers the benefit of representing information in a precise and unambiguous way. In addition, when numbers are used to represent information, the data, once it has been collected, can be analysed by using various statistical procedures. The value of this being that the researcher is able to go beyond the surface of the information at hand and draw conclusions about its significance and meaning (Dyer, 1995: 261).

4.10. POPULATION

Christensen (1997:67), describes a population as being all the events, things or individuals to be represented. Wegner (2000: 4), points out that a population is the collection of all

observations of a random variable under study and about which one is trying to draw conclusions in practice. A population has to be defined in specific terms to include only those sampling units with characteristics that are relevant to the problem. Not every member of a population can be observed or measured due to time and cost consideration (Wegner, 2000:4).

In this research study there are 178 companies within the Manufacturing, Engineering and Related Services Sector within KZN that employ 50 employees or more. The total population for this study is 178 Skills Development Officers from these 178 companies.

These companies were selected on the following basis:

(i) companies that employ 50 employees or more are required to have a Skills Development Committee / Training Committee in place for consultation purposes. These companies are required to consult employees, through consultation forums, on the implementation of the Workplace Skills Plan and the process involved in developing the Annual Training Report,

(ii) companies that employ 50 people or more also have an increased link to employment equity in that such companies are also required to complete an employment equity report. With regard to skills development, such companies are required to explain how the training implemented made a contribution to achieving the employment equity targets in the respective organisations, and

(iii) all 178 companies are based in KZN and it was easier for the researcher to gain access to information due to the proximity of these companies to the researcher.

4.11. SAMPLING

For this research study the total population was used and sampling was not used. The reason for this is that researcher is aware that the expected response rate to questionnaires sent out is around 20%. In line with this, the researcher sent out questionnaires to the total population (178 companies) so as to increase the number of possible responses in order to have a reasonable number of responses to conduct data analysis. The researcher hoped to receive about 36 useable responses.

Though sampling was not used in this research study, the researcher is aware of what sampling is as well as two main types of sampling techniques, which are briefly mentioned below.

Dyer(1995:89), describes a sample as being a group of individuals who are selected from within a larger population by means of a sampling procedure, and who generate the data for the research. Sampling is used by a researcher to draw conclusions about a group of individuals when it is not possible to gather information from each individual in the group as the group is to large for every member to be contacted (Dyer, 1995: 89).

Wegner (2000:170), identifies two main types of sampling, which are probability and non-probability sampling. Probability sampling includes a selection of methods where the observations in the research have been selected on a purely random basis from the population. Non-probability sampling is a sampling method in which observations are not selected randomly (Wegner, 2000:170).

4.12. **DATA COLLECTION METHOD**

Questionnaires were used to obtain responses to questions from Skills Development Facilitators within the 178 selected Manufacturing, Engineering and Related Services Sector companies. Respondents were first contacted telephonically to explain the reasons behind the research, asked for their participation in the research and advised that they will receive a questionnaire for completion via e-mail. Thereafter questionnaires were e-mailed to all respondents together with a covering letter explaining the background to the research and asking respondents to complete the questionnaire (Appendix A)

Respondents were initially given four weeks to complete the questionnaire. After the fourth week, respondents who had not returned the completed questionnaire were sent follow-up e-mails reminding them to complete and return the questionnaires.

Of the 178 questionnaires sent out, the researcher received back 42 completed questionnaires, which represented a 23.5% response rate.

4.13. DATA COLLECTION INSTRUMENT

Wegner (2000:14), identifies several data collection instruments used to collect data for statistical analysis, some of which include: observations, questionnaires, interviews and experimentation.

The data collection instrument used in this research study is a questionnaire. According to Wegner (2000:17), the design of the questionnaire is critical so as to ensure the correct research questions are addressed and that accurate and appropriate data for statistical analysis is collected. The questionnaire for this research study was designed from the research questions, research objectives and the literature review.

The questionnaire used in this research study was divided into two sections, Section A and Section B. Section A consisted of 9 questions and Section B comprised of 24 questions (Appendix A). The self-administered questionnaire approach was adopted whereby respondents were given the questionnaires to complete on their own.

Neuman (2000:252), identifies the following factors, which should be avoided when designing questionnaires. These include:

(i) jargon and abbreviations
(ii) ambiguity, confusion and vagueness
(iii) emotional language and prestige bias
(iv) double-barrelled questions
(v) leading questions
(vi) questions beyond respondents' capabilities

Neuman (2000:260), identifies two types of questions, which are open-ended and close-ended questions. Open-ended questions ask questions and allow respondents to provide unstructured and free responses. Close-ended questions on the other hand allow only for structured and fixed responses in that a question is asked and the respondents are given fixed answers to choose from. Both these types of questions have advantages and disadvantages. Neuman (2000:261), identifies some of the following advantages and disadvantages of open-ended and close-ended questions.

The main advantages of open-ended questions include: they permit a large number of possible answers, respondents can answer in detail, they permit creativity and richness of details and reveal the respondents logic and frame of reference. The main disadvantages of open-ended questions include: different respondents provide varying degrees of detail in answers, comparisons and statistical analysis becomes difficult, a great amount of respondents time, thought and effort is necessary and respondents may become intimidated by the questions (Neuman, 2000:261).

The main advantages of close-ended questions include: it is easier and quicker for respondents to answer, the answers of different respondents are easier to compare and there are fewer irrelevant or confused answers to questions. The main disadvantages of close-ended questions include: they can suggest ideas that the respondent would not otherwise have, respondents with no opinion or knowledge can answer anyway, misinterpretation of a question can go unnoticed, marking the wrong response is possible and they force respondents to give simplistic responses to complex issues (Neuman, 2000:261).

The questions used in this research study consisted of closed-ended questions and five open-ended questions in Section A of the questionnaire. Open-ended questions were kept to minimum, except for the five questions in Section A, as such questions render comparisons and statistical analysis very difficult due these responses having to be coded before they can be processed. The coding of responses can be a very difficult and time-consuming exercise (Neuman, 2000:261). The researcher mainly used close-ended questions, as they were more suited to the research study in that respondents were restricted to specific questions with specific responses. The researcher was able to obtain answers to the questions in the desired form.

In Section B, the 5-point Likert Scale was used (Appendix A). Twenty four statements were given to individuals and they were asked to rate their answers mainly on the following scale:
1. Strongly Agree 2. Agree 3. Neither Agree/Nor Disagree 4. Disagree
5. Strongly Disagree

A 5-point Likert Scale was used as it is simple and allows respondents to capture answers to questions easily and quickly.

The next section explains how the questions relate to the hypotheses, i.e. how certain questions help conclude certain hypotheses.

Hypothesis 1

There is a shortage of skills in the Manufacturing, Engineering and Related Services Sector.

Questions 1B to 6B were used to test this hypothesis. These questions provided information on the rate of skills development within the Manufacturing, Engineering and Related Services Sector, whether organisations are facing skills shortages, the disciplines in which organisations are facing skills shortages and whether organisations are facing skills shortages amongst blacks. The literature confirms that the rate of skills development within this sector slow and cannot keep up with the demand for skilled people (MERSETA, 2004:42). In addition the literature also supports the fact the organisations within this sector are facing the biggest skills shortages within technical disciplines (MERSETA, 2004:42). Organisations also have a lack of managers who possess both management and technical skills (MERSETA, 2004:43). According to the MERSETA (2004:32), there is a scarcity of suitably qualified and experienced blacks with technical and management skills.

These questions all deal with skills shortages. It can be seen from the above discussion that the information ascertained from these questions helps to provide a conclusion as to this hypothesis.

Hypothesis 2

The shortage of skills in the Manufacturing, Engineering and Related Services Sector could hamper growth in certain parts of the sector.

Questions 8B to 10B were used to test this hypothesis. These questions looked at whether the shortage of skills experienced within respective organisations poses a threat to the growth and competitiveness of these organisations. Through these questions information was also obtained on whether skills development contributes to improving profitability with organisations. The information obtained from these questions is directly linked to whether skills shortages could hamper growth in certain parts of the Manufacturing, Engineering and Related Services Sector and is therefore useful in concluding this hypothesis.

Hypothesis 3

There is a slow rate of skills development in the Manufacturing, Engineering and Related Services Sector.

Question 1B was used to test this hypothesis. This question looked at whether the rate of skills development within certain organisations is adequate compared to meet the high demand for skilled people within these respective organisations. The literature confirms that the rate of skills development within this sector is slow and cannot keep up with the high demand for skilled people (MERSETA, 2004:42). The question provides information which is directly related to this hypothesis as it is concerned with the rate of skills development within the Manufacturing, Engineering and Related Services Sector.

Hypothesis 4

A large portion of this sector's skilled workforce will retire in a few years time and the skills they possess will be difficult to replace.

Questions 13B to 15B were used to test this hypothesis. Question 15B looked at whether skills transfer from older employees to younger employees is important in ensuring the sustainability of skills for the future. The information from this question helps to conclude this hypothesis in that it provides information on the importance that organisations place on skills transfer from older employees to younger employees as being a key strategy to ensure sustainability of skills for the future. The literature supports this point in that it states that a large part of this sector's workforce will retire in a few years time and the transfer of skills from older employees to younger employees is key in ensuring the sustainability of skills within this sector (MERSETA, 2004:15).

Question 13B and 14B look at coaching and mentoring as key interventions in organisations' skills retention strategies. These two questions provide information on whether organisations consider coaching and mentorship as important strategies for skills development and skills transfer. These two questions help to conclude this hypothesis in that they provide an insight into the opinions of organisations with regard to coaching and mentorship as being important strategies for the transfer of skills from the older generation to the younger generation so as to ensure a sustainable skills base for the future. The literature states that coaching is a key strategy used in training and development to improve employee performance (Zweibal,

2005:62). Further to this, mentorship is regarded as an important intervention aimed at improving skills and promoting skills transfer (Fenwick, 2001:32).

Hypothesis 5

Young, highly skilled people are highly mobile within the Manufacturing, Engineering and Related Services Sector.

Questions 11B to 15B were used to test this hypothesis. Question 11B considered the degree of difficulty experienced by organisations with regard to attracting and retaining young, highly skilled people. This question assisted in concluding this hypothesis in that should organisations find difficulty in attracting and retaining, young highly skilled people then it could mean that there is a high degree of mobility amongst this group of people. The literature confirms that young, highly skilled people are highly mobile within this sector and this sector battles to attract and retain young, highly skilled people (MERSETA, 2004:19)

Question 12B to 14B looked at skills development as being important for skills retention as well as the interventions that could be used to retain skills. These questions help to conclude this hypothesis in that the information obtained from these questions provides insight into the level of importance organisations place on skills retention and the impact that skills retention has on the mobility of young, highly skilled people within this sector

Question 15B looked at whether skills transfer from older employees to younger employees is important in ensuring the sustainability of skills for the future. According to the MERSETA (2004:19), young, highly skilled people are highly mobile within this sector therefore this high level of mobility could result in skills transfer not happening at a fast enough rate within this sector.

Hypothesis 6

The Manufacturing, Engineering and Related Services Sector finds difficulty in attracting young, highly skilled people.

Question 25 was used to test this hypothesis. This question looked at whether or not certain factors provide difficulty for organisations to attract and retain young, highly skilled people. The factors within this question pertain to development issues and remuneration issues which

impact directly on an organisations ability to attract and retain young, highly skilled people. According to the literature poor remuneration policies and practices, a lack of training and development opportunities and limited career development opportunities impede this sector's ability to attract, young highly skilled people (MERSETA, 2004:19).

Hypothesis 7

The Manufacturing, Engineering and Related Services Sector find difficulty in retaining young, highly skilled people

Questions 11B to 15B were used to test this hypothesis. As indicated above under hypothesis 5, question 11B considered the degree of difficulty experienced by organisations with regard to attracting and retaining young, highly skilled people. This information is directly related to the hypothesis and therefore assists in determining the degree of difficulty faced by organisations in retaining young, highly skilled people. The literature confirms that the Manufacturing, Engineering and Related Services Sector battles to retain young, highly skilled people (MERSETA, 2004:19).

Question 12B to 14B deal with skills retention and question 15B looks at the transfer of skills from older employees to younger employees. Question 12B to 14B help to conclude this hypothesis in that the information obtained from these questions provides insight into the level of importance organisations place on skills retention and the impact that skills retention strategies have on the organisations' ability to retain young, highly skilled people. As the literature indicates that the MERSETA finds difficulty in retaining young, highly skilled people (MERSETA, 2004:19), it follows that the transfer of skills from older employees to younger employees could therefore be compromised.

4.14. TESTING THE QUESTIONNAIRE

The questionnaire was pre-tested before it was distributed to the respondents. This was done by way of a pilot study, which was carried out on five Manufacturing, Engineering and Related Services Sector companies in Pietermaritzburg. The purpose of pre-testing the questionnaire was to refine the questions so as to eliminate potential problems that respondents may have in answering the questions.

Three responses were received from the pilot study. The responses highlighted certain questions, which were considered ambiguous and others, which used complicated wording. Corrections were made to the questions and the questionnaire was then distributed to all the respondents.

4.15. DATA ANALYSIS

Wegner (2000:2), describes data analysis as the process of collecting individual data and values, collating, summarising, analysing and presenting such data in a useful format for decision making.

The information obtained in this research study was analysed using mainly qualitative methods and quantitative methods to a lesser extent.

The qualitative method allowed for detailed explanation and in depth understanding of issues. As the data was mainly of a descriptive nature the data analysis included descriptive data analysis techniques such as tables and graphs.

The quantitative methods expressed the data collected in terms of numbers and values, which included calculations of the mean, median, mode, standard deviation and percentage scores. Responses were collated, processed and captured onto the MS Excel package where the calculations of the mean, median, mode, standard deviation and percentage scores were done.

4.16. TESTS TO CHECK IF THE DATA IS PARAMETRIC OR NON PARAMETRIC

Different distributions were fitted to the data, especially the questions regarding skills to check if the data is parametric or non-parametric. Coakes and Steed (2003:33) provide details with regard to the tests of normality. The Kolmogorov Smirnov test was used to test the following hypotheses regarding different distributions that can fit the data. The type of statistical test that can be used depends on the nature of the data i.e. parametric tests can only be used on parametric data and likewise non-parametric tests applied to non-parametric data. The type of statistical test used must be applicable to the nature of the data. The results are as follows:

H_0: the data follows a normal distribution.

H_1: the data does not follow a normal distribution.

Table 4.1

One-Sample Kolmogorov-Smirnov Test

	N	Normal Parameters(a,b)		Kolmogorov-Smirnov Z	Asymp. Sig. (2-tailed)
		Mean	Std. Deviation		
Q1B	42	2.7619	.93207	1.900	.001
Q2B	42	2.6429	.85029	2.401	.000
Q3B	42	2.6905	.92362	1.613	.011
Q4B	42	1.6190	.62283	1.951	.001
Q5B	42	1.9524	.73093	2.455	.000
Q6B	42	3.0714	1.02154	1.600	.012
Q7B	42	2.6667	.87420	1.796	.003
Q8B	42	2.4762	.83339	2.481	.000
Q9B	42	2.4286	.85946	2.626	.000
Q10B	42	1.6667	.57027	2.201	.000
Q11B	42	2.0476	.82499	2.001	.001
Q12B	42	2.2143	.68202	2.034	.001
Q13B	42	2.3571	.72655	1.839	.002
Q14B	42	2.5000	.70711	2.150	.000
Q15B	42	1.3810	.62283	2.722	.000
Q16B	41	1.2439	.43477	3.001	.000
Q17B	42	1.8571	.56618	2.497	.000
Q18B	42	1.6667	.47712	2.750	.000
Q19B	42	1.7143	.67302	1.837	.002
Q20B	42	2.4524	.86115	2.687	.000
Q21B	41	2.5122	.84030	2.637	.000
Q22B	42	1.4762	.59420	2.333	.000

Note: Questions marked A e.g. Q1A refers to questions contained in Section A of the report Questions marked B e.g. Q1B refers to questions contained in Section B of the questionnaire

H_0 will be rejected for all of the above questions because at the 5% significance level all of the above p-values are < 0.05 and conclude that the data does not follow a normal distribution. Coakes and Steed (2003:33) provide details with regard to the tests of normality.

Next the Uniform distribution was fitted to the data:

H_0: the data follows a uniform distribution.

H_1: the data does not follow a uniform distribution

Table 4.2

One-Sample Kolmogorov-Smirnov Test 2

	N	Uniform Parameters(a,b)		Kolmogorov-Smirnov Z	Asymp. Sig. (2-tailed)
		Minimum	Maximum		
Q1B	42	1.00	5.00	1.620	.010
Q2B	42	2.00	4.00	3.858	.000
Q3B	42	1.00	4.00	1.697	.006
Q4B	42	1.00	4.00	4.166	.000
Q5B	42	1.00	4.00	3.703	.000
Q6B	42	1.00	5.00	1.466	.027
Q7B	42	1.00	4.00	1.852	.002
Q8B	42	1.00	5.00	2.700	.000
Q9B	42	1.00	5.00	3.009	.000
Q10B	42	1.00	3.00	2.932	.000
Q11B	42	1.00	4.00	2.932	.000
Q12B	42	1.00	4.00	2.315	.000
Q13B	42	1.00	4.00	1.852	.002
Q14B	42	1.00	4.00	2.006	.001
Q15B	42	1.00	3.00	4.475	.000
Q16B	41	1.00	2.00	4.841	.000
Q17B	42	1.00	4.00	4.012	.000
Q18B	42	1.00	2.00	4.320	.000
Q19B	42	1.00	4.00	3.858	.000
Q20B	42	1.00	5.00	3.009	.000
Q21B	41	2.00	5.00	4.373	.000
Q22B	42	1.00	3.00	3.703	.000

H_0 will be rejected for all of the above questions because at the 5% significance level all of the above p-values are < 0.05 and conclude that the data does not follow a uniform distribution. Coakes and Steed (2003:33) provide details with regard to the tests of normality.

Finally the Poisson distribution was fitted to the data:

H_0: the data follows a Poisson distribution.

H_1: the data does not follow a Poisson distribution.

Table 4.3

One-Sample Kolmogorov-Smirnov Test 3

	N	Poisson Parameter(a,b)	Kolmogorov-Smirnov Z	Asymp. Sig. (2-tailed)
		Mean		
Q1B	42	2.7619	1.386	.003
Q2B	42	2.6429	1.680	.007

	N	Poisson Parameter(a,b)	Kolmogorov-Smirnov Z	Asymp. Sig. (2-tailed)
		Mean		
Q3B	42	2.6905	1.160	.036
Q4B	42	1.6190	1.284	.004
Q5B	42	1.9524	1.395	.041
Q6B	42	3.0714	1.122	.001
Q7B	42	2.6667	1.343	.004
Q8B	42	2.4762	1.739	.005
Q9B	42	2.4286	1.805	.003
Q10B	42	1.6667	1.224	.000
Q11B	42	2.0476	1.006	.004
Q12B	42	2.2143	1.504	.022
Q13B	42	2.3571	1.443	.031
Q14B	42	2.5000	1.417	.036
Q15B	42	1.3810	1.629	.010
Q16B	41	1.2439	1.846	.002
Q17B	42	1.8571	1.537	.018
Q18B	42	1.6667	1.517	.020
Q19B	42	1.7143	1.167	.001
Q20B	42	2.4524	1.772	.004
Q21B	41	2.5122	1.824	.003
Q22B	42	1.4762	1.481	.025

H_0 will be rejected for all of the above questions because at the 5% significance level all of the above p-values are < 0.05 and conclude that the data does not follow a Poisson distribution.

Clearly the data is non-parametric and non-parametric statistical techniques will be applied to the data set.

According to Coakes and Stead (2003:195), the Chi-Square test for independence or relatedness applies to the analysis of relationships between two categorical variables. The hypotheses were tested using the Chi-Square test because of the non-parametric nature of the data.

4.17. SUMMARY

This chapter describes the site where the research was conducted, the purpose of the study, the research problems, research questions and research objectives. This chapter also provides details of the following: the research method, the research design, quantitative versus

qualitative research, the population, sampling, data collection, the data collection instrument, data analysis and the tests used.

The research carried out was mainly of a qualitative nature where respondents were mainly asked for their opinions and attitudes towards skills development issues.

The survey method using questionnaires was used. The questionnaire was delivered to the total population of 178 respondents and no sampling was used. The reason behind this is that the researcher wanted to get back as many responses as possible so as to have a reasonable number of responses to conduct data analysis. Forty two usable responses were received.

The data collection method followed the process of first phoning the respondents to tell them about the survey and ask them to participate in the research. This was then followed by e-mailing the questionnaire to the respondents.

The data analysis was carried out mainly using descriptive data analysis techniques such as tables and graphs. Quantitative data analysis techniques were used to a lesser extent and included the calculation of the mean, median, mode, standard deviation and percentage scores. This analysis was done using the MS Excel package.

Non-parametric statistical techniques were applied to the data set.

CHAPTER 5

PRESENTATION AND SUMMARY OF RESULTS

5.1 INTRODUCTION

The purpose of this chapter is to present the findings and interpret the results of the study.

5.2 SAMPLE PROFILE

There are 178 companies within the Manufacturing, Engineering and Related Services Sector in Kwa-Zulu Natal, who employ 50 people or more. The total population for this study is 178 Skills Development Officers from these 178 companies. Questionnaires were distributed to all 178 companies. Forty two questionnaires were returned and used for the study. This indicates a response rate of 23.5%.

The majority of the responses (51.2%) were received from organisations within the Metals and Engineering sub-sector and the least responses (2.4%) were received from organisations within the New Tyre sub-sector. The total number of employees within the 42 organisations is 23919 and the average number of employees is 569.5.

5.3 RESEARCH RESULTS

SECTION A

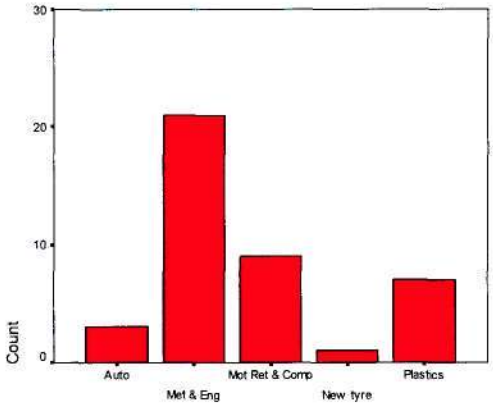
The following tables and graphs provide details of the responses to the questions contained in Section A of the questionnaire. This section contains general training and development questions.

Note: In cases where there are less than 42 responses recorded this means that less than 42 respondents answered that particular question.

1. Which Manufacturing, Engineering and Related Services sub-sector your organisation belong to?

Figure 5.1A

Sub-sectors of the Organisations within the Manufacturing, Engineering and Related Services Sector



Key:

Auto	-	Auto Manufacturing
Met & Eng	-	Metal and Engineering
Mot Ret & Comp	-	Motor Retail and Components Manufacture
New Tyre	-	New Tyre Manufacturing
Plastics	-	Plastics

Table 5.1A

Sub-sectors of the Organisations within the Manufacturing, Engineering and Related Services Sector.

Sub-sectors		Frequency	Percent	Cumulative Percent
	Auto Manufacturing	3	7.3	7.3
	Metal & Engineering	21	51.2	58.5
	Motor Retail & Components Manufacture	9	22.0	80.5
	New Tyre Manufacturing	1	2.4	82.9
	Plastics	7	17.1	100.0
	Total	41	100.0	

2. Total number of employees in your organisations

Figure 5.2A

Total Number of Employees Within the Organisations

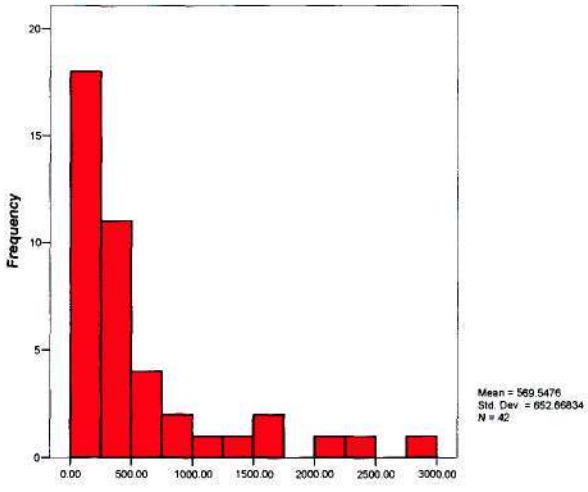


Table 5.2A

Total Number of Employees Within the Organisations

Total no. of employees	23919
Average no. of employees	569.5

3. Do you have a Training Committee?

Figure 5.3A

Presence of Training Committees Within the Organisations

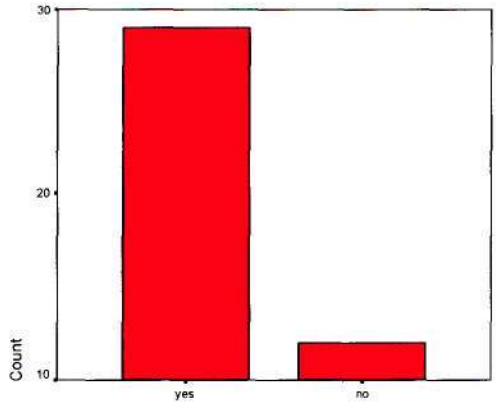


Table 5.3A

Presence of Training Committees Within the Organisations

		Frequency	Percent	Cumulative Percent
	Yes	29	70.7	70.7
	No	12	29.3	100.0
	Total	41	100.0	

4. Does your organization have a Training and Development department?

Figure 5.4A

Presence of Training and Development Departments Within the Organisations

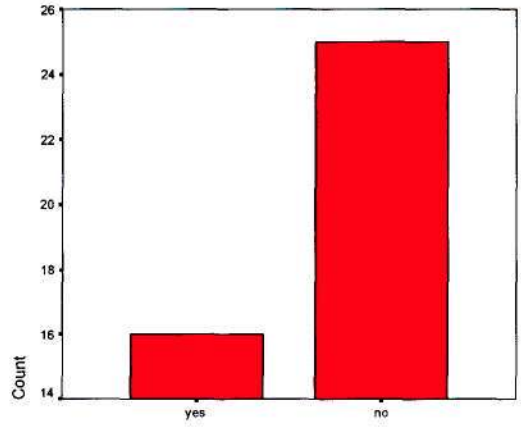


Table 5.4A

Presence of Training and Development Departments Within the Organisations

		Frequency	Percent	Cumulative Percent
	Yes	16	39.0	39.0
	No	25	61.0	100.0
	Total	41	100.0	

5. How many training specialists do you employ?

Figure 5.5A

Number of Training Specialist Employed

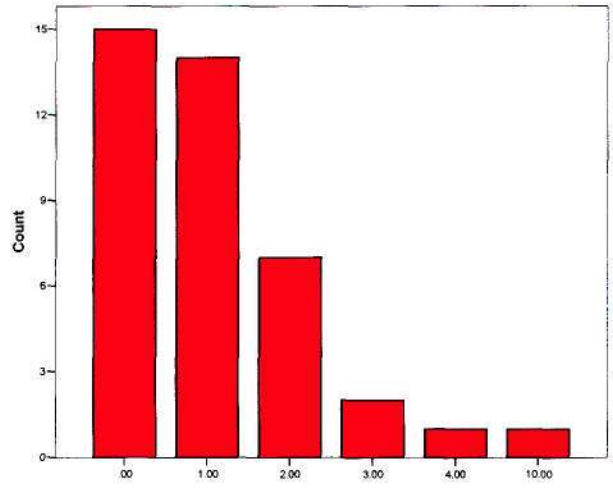


Table 5.5A

Number of Training Specialist Employed

		Frequency	Percent	Cumulative Percent
	.00	15	37.5	37.5
	1.00	14	35.0	72.5
	2.00	7	17.5	90.0
	3.00	2	5.0	95.0
	4.00	1	2.5	97.5
	10.00	1	2.5	100.0
	Total	40	100.0	

6. Do you have a separate budget for training?

Figure 5.6A

Number of Organisations who have Separate Budgets for Training

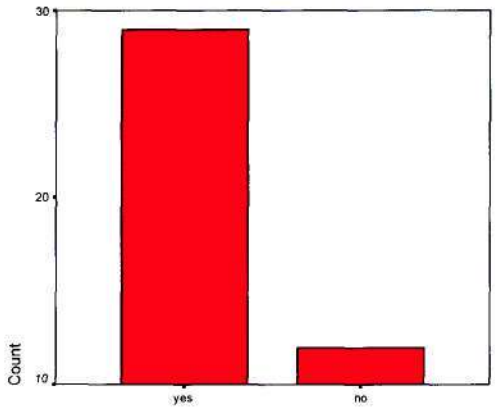


Table 5.6A

Number of Organisations who have Separate Budgets for Training

		Frequency	Percent	Cumulative Percent
	yes	29	70.7	70.7
	no	12	29.3	100.0
	Total	41	100.0	

7. What are the approximate training costs as a % of your employment costs? (Total Wages and Salaries)?

Figure 5.7A

Approximate Training Costs as a % of Employment Costs

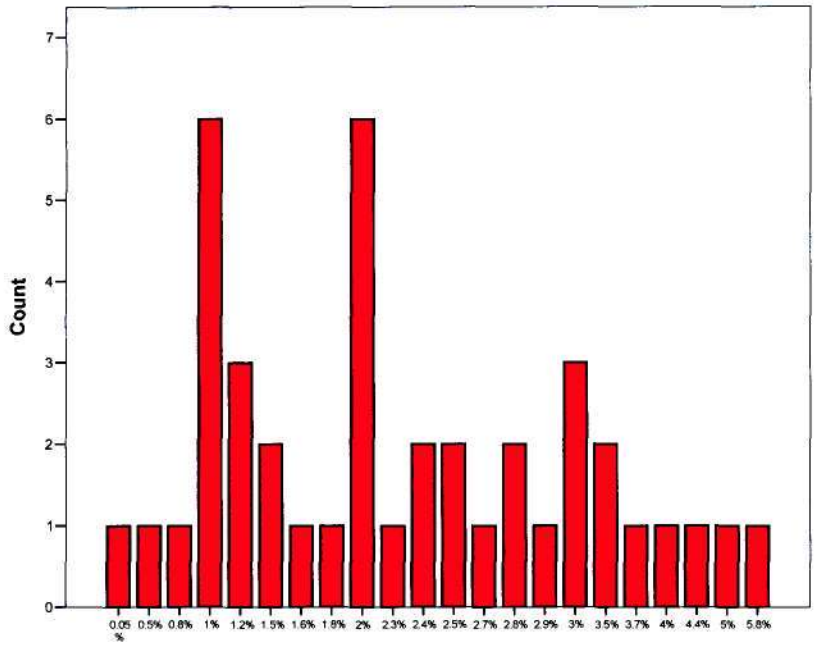


Table 5.7A

Approximate Training Costs as a % of Employment Costs

Approximate Training Costs as a % of Employment Costs		Frequency	Percent	Cumulative Percent
	0.05%	1	2.4	2.4
	0.5%	1	2.4	4.8
	0.8%	1	2.4	7.3
	1%	6	14.6	21.9
	1.2%	3	7.3	29.2
	1.5%	2	4.9	34.1
	1.6%	1	2.4	36.5
	1.8%	1	2.4	39
	2%	6	14.6	53.6
	2.3%	1	2.4	56.1
	2.4%	2	4.9	60.9
	2.5%	2	4.9	65.8

Approximate Training Costs as a % of Employment Costs		Frequency	Percent	Cumulative Percent
	2.7%	1	2.4	68.3
	2.8%	2	4.9	73.1
	2.9%	1	2.4	75.6
	3%	3	7.3	82.9
	3.5%	2	4.9	87.8
	3.7%	1	2.4	90.2
	4%	1	2.4	92.6
	4.4%	1	2.4	95.1
	5%	1	2.4	97.5
	5.8%	1	2.4	100.0
	Total	41	100.0	

8. How many of your employees received off the job training since 1 Jan 2004?

Figure 5.8A

Number of Employees Who Received Off-the-Job Training Since Jan 2004

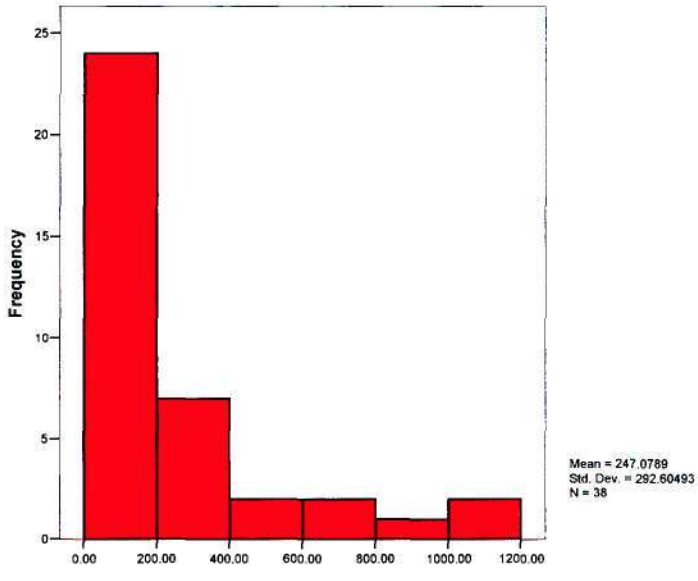


Table 5.8 A

Number of Employees Who Received Off-the-job Training Since 2004

Total number of employees	9389.8
Average number of employees	247.1

9. What is the level of importance of training in your organisation according to your management?

Figure 5.9A

The Level of Importance of Training

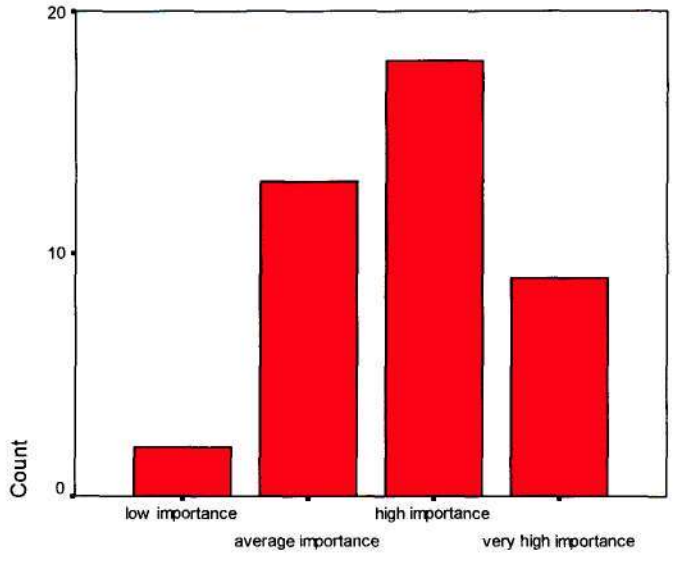


Table 5.9A

The Level of Importance of Training

		Frequency	Valid Percent	Cumulative Percent
Valid	low importance	2	4.8	4.8
	average importance	13	31.0	35.7
	high importance	18	42.9	78.6
	very high importance	9	21.4	100.0
	Total	42	100.0	

SECTION B

The following tables and graphs provide details of the responses to the questions contained in Section B of the questionnaire. This section contains specific questions relating to skill development.

1. The rate of skills development within my organisation is inadequate compared to the high demand for skilled people required within my organisation.

Figure 5.1B

Rate of Skills Development within Organisations

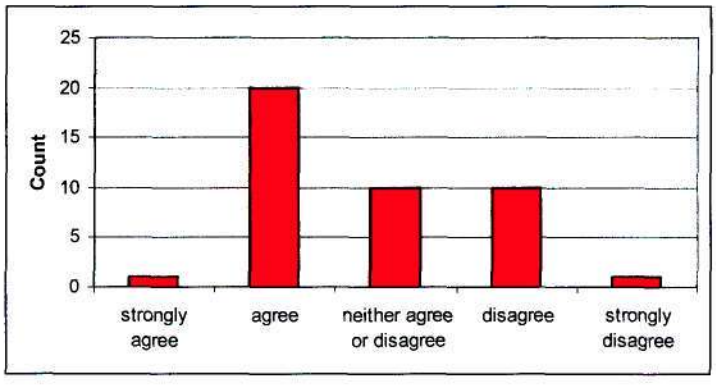


Table 5.1B

The Rate of Skills Development within Organisations

		Frequency	Percent	Cumulative Percent
	strongly agree	1	2.4	2.4
	agree	20	47.6	50.0
	neither agree or disagree	10	23.8	73.8
	disagree	10	23.8	97.6
	strongly disagree	1	2.4	100.0
	Total	42	100.0	

2. My organisation is currently facing a skills shortage.

Figure 5.2B

Skills Shortages Faced by Organisations

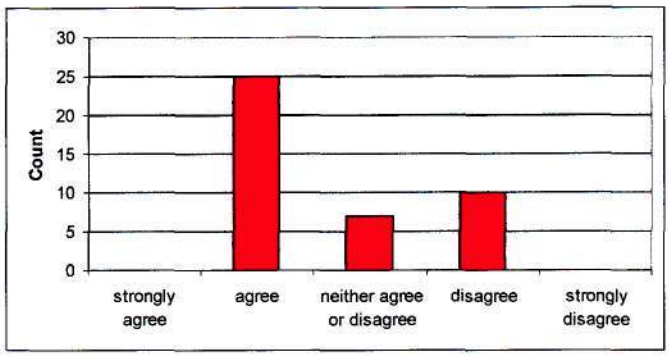


Table 5.2B

Skills Shortages Faced by Organisations

		Frequency	Percent	Cumulative Percent
	strongly agree	0	0	0
	Agree	25	59.5	59.5
	neither agree or disagree	7	16.7	76.2
	Disagree	10	23.8	100.0
	strongly disagree	0	0	0
	Total	42	100.0	

3. My organisation has a shortage of managers who are competent in both technical and people management skills.

Figure 5.3B

Skills Shortage of Managers Competent in both Technical and Management Skills

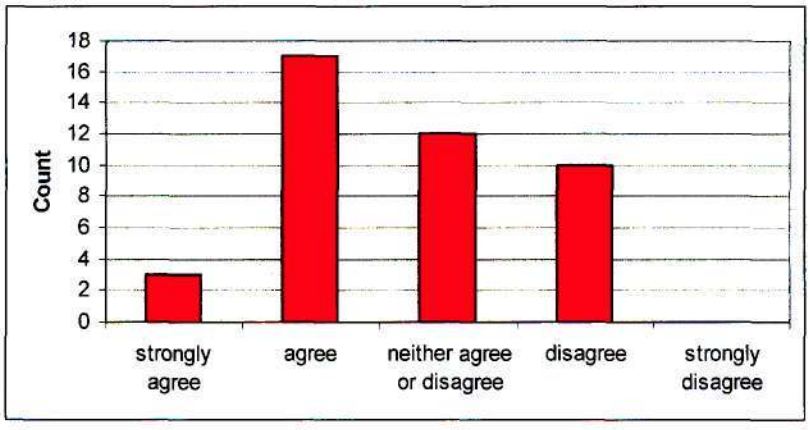


Table 5.3B

Skills Shortage of Managers Competent in both Technical and Management Skills

		Frequency	Percent	Cumulative Percent
	strongly agree	3	7.1	7.1
	Agree	17	40.5	47.6
	neither agree or disagree	12	28.6	76.2
	Disagree	10	23.8	100.0
	strongly disagree	0	0	0
	Total	42	100.0	

4 There is a shortage of qualified and experienced Africans, Coloureds and Indians with technical and management skills.

Figure 5.4B

Shortage of Qualified and Experienced Africans, Coloured and Indians with Technical and Management Skills

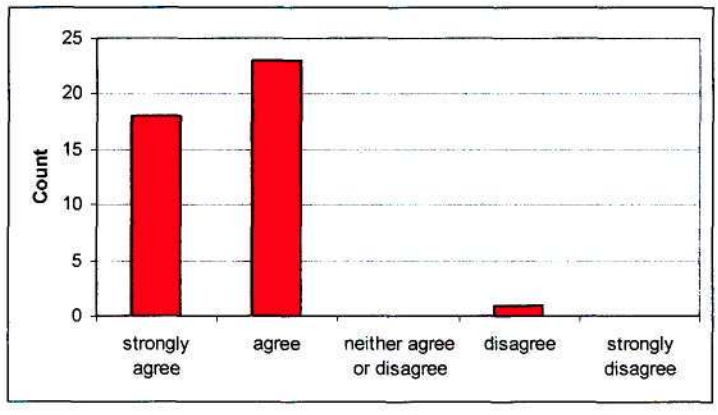


Table 5.4B

Shortage of Qualified and Experienced Africans, Coloured and Indians with Technical and Management Skills

		Frequency	Percent	Cumulative Percent
	strongly agree	18	42.9	42.9
	agree	23	54.8	97.6
	disagree	1	2.4	100.0
	neither agree or disagree	0	0	0
	Strongly disagree	0	0	0
	Total	42	100.0	

5. My organisation experiences difficulties in filling technical vacancies.

Figure 5.5B

Difficulty Filling Technical Vacancies

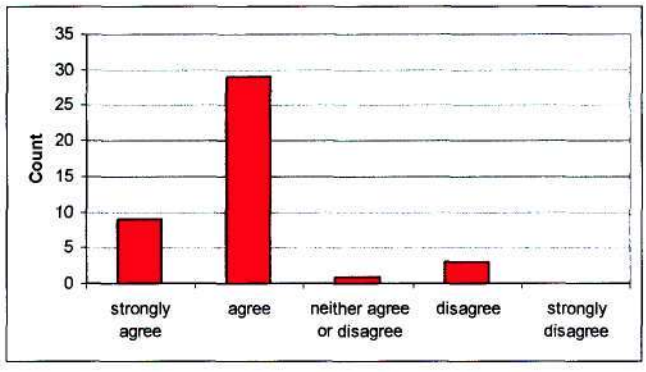


Table 5.5B

Difficulty Filling Technical Vacancies

		Frequency	Percent	Cumulative Percent
	strongly agree	9	21.4	21.4
	agree	29	69.0	90.5
	neither agree or disagree	1	2.4	92.9
	disagree	3	7.1	100.0
	Strongly disagree	0	0	0
	Total	42	100.0	

6. My organisation experiences difficulties in filling management vacancies.

Table 5.6B

Difficulty Filling Management Vacancies

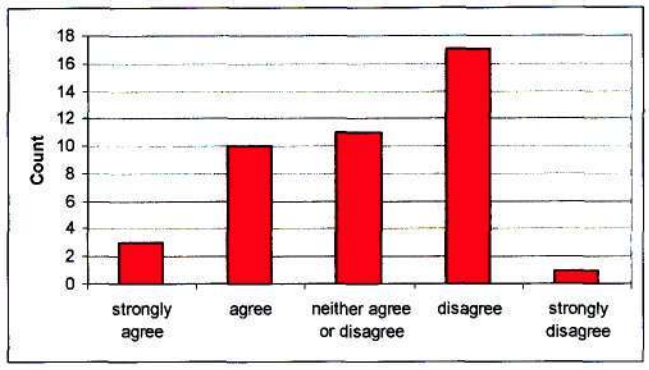


Figure 5.6B

Difficulty in Filling Management Vacancies

		Frequency	Percent	Cumulative Percent
	strongly agree	3	7.1	7.1
	agree	10	23.8	31.0
	neither agree or disagree	11	26.2	57.1
	disagree	17	40.5	97.6
	strongly disagree	1	2.4	100.0
	Total	42	100.0	

7. The impact of HIV and AIDS poses a threat to the sustainability of skills development, within my organisation.

Figure 5.7B

The Impact of HIV/AIDS on Skills Development

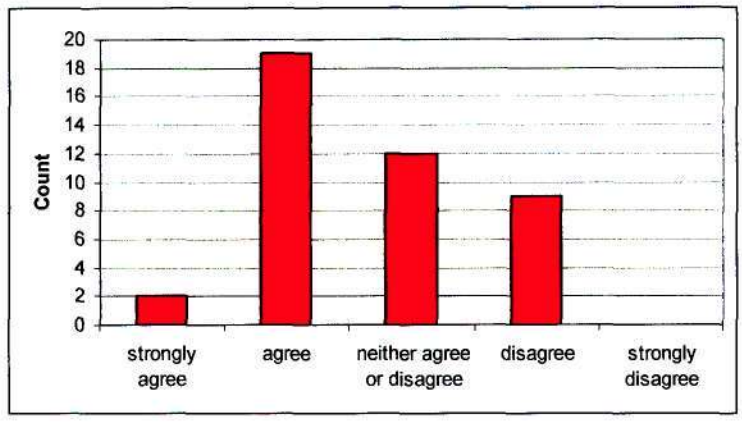


Table 5.7B

The Impact of HIV /AIDS on Skills Development

		Frequency	Percent	Cumulative Percent
	strongly agree	2	4.8	4.8
	agree	19	45.2	50.0
	neither agree or disagree	12	28.6	78.6
	disagree	9	21.4	100.0
	strongly disagree	0	0	0
	Total	42	100.0	

8. The shortage of skills within the organisation poses a threat to the growth of our organisation.

Figure 5.8B

Skills Shortage Poses a Threat to the Growth of Organisations

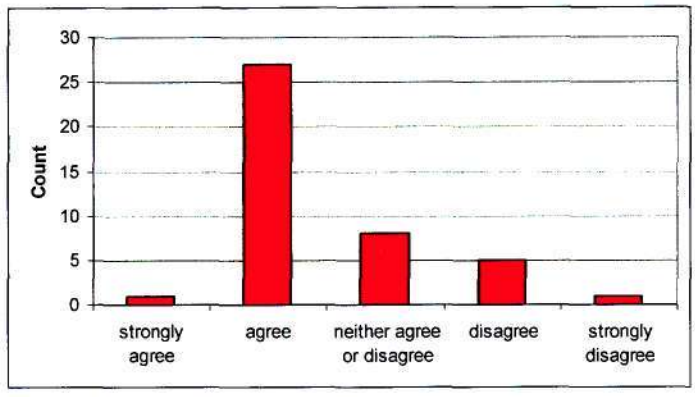


Table 5.8B

Skills Shortage Poses a Threat to the Growth of Organisations

		Frequency	Percent	Cumulative Percent
	strongly agree	1	2.4	2.4
	agree	27	64.3	66.7
	neither agree or disagree	8	19.0	85.7
	disagree	5	11.9	97.6
	strongly disagree	1	2.4	100.0
	Total	42	100.0	

9. The shortage of skills within the organisation poses a threat to the competitiveness of our organization

Figure 5.9

Skills Shortage Poses a Threat to the Competitiveness of the Organisations

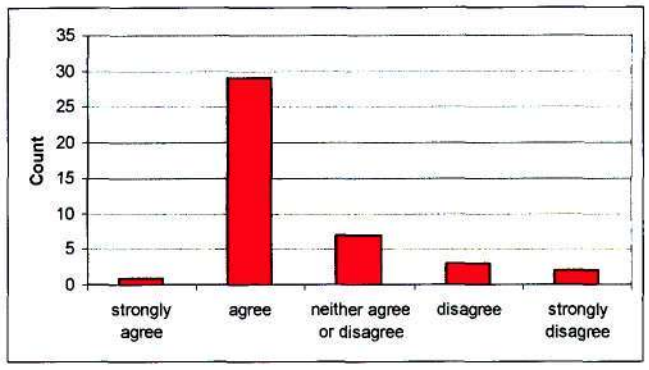


Table 5.9

Skills Shortage Poses a Threat to Competitiveness of the Organisations

		Frequency	Percent	Cumulative Percent
	strongly agree	1	2.4	2.4
	agree	29	69.0	71.4
	neither agree or disagree	7	16.7	88.1
	disagree	3	7.1	95.2
	strongly disagree	2	4.8	100.0
	Total	42	100.0	

10. Skills development makes a real contribution to improving the profitability of our organisation.

Figure 5.10B

Skills Development Contributes to Improving Profitability

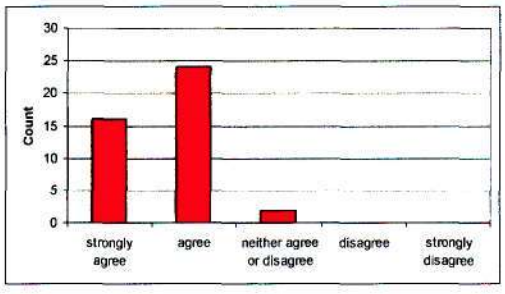


Table 5.10B

Skills Development Contributes to Improving Profitability

		Frequency	Percent	Cumulative Percent
	strongly agree	16	38.1	38.1
	agree	24	57.1	95.2
	neither agree or disagree	2	4.8	100.0
	strongly agree	0	0	0
	strongly disagree	0	0	0
	Total	42	100.0	

11. Our organisation experiences difficulty in attracting and retaining young, highly skilled people.

Figure 5.11B

Difficulty in Attracting and Retaining Young, Highly Skilled People

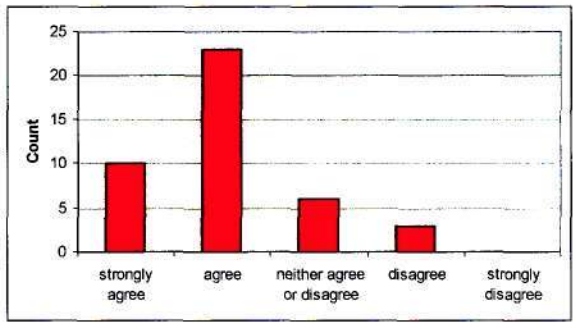


Table 5.11B

Difficulty in Attracting and Retaining Young, Highly Skilled People

		Frequency	Percent	Cumulative Percent
	strongly agree	10	23.8	23.8
	agree	23	54.8	78.6
	neither agree or disagree	6	14.3	92.9
	disagree	3	7.1	100.0
	strongly disagree	0	0	0
	Total	42	100.0	

12. Skills development is an integral part of our organisation's skills retention strategy.

Figure 5.12B

Skills Development is an Integral Part of Organisations Retention Strategy

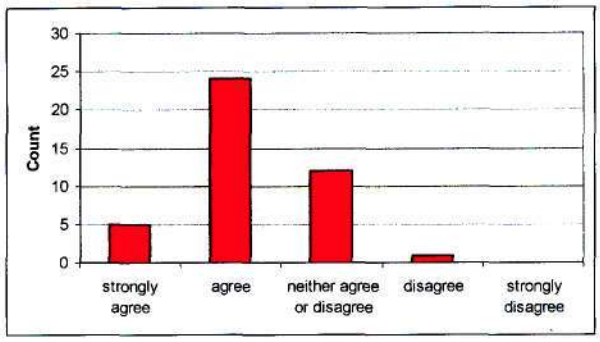


Table 5.12B

Skills Development is an Integral Part of Organisations Retention Strategy

		Frequency	Percent	Cumulative Percent
	strongly agree	5	11.9	11.9
	agree	24	57.1	69.0
	neither agree or disagree	12	28.6	97.6
	disagree	1	2.4	100.0
	strongly disagree	0	0	0
	Total	42	100.0	

13. Coaching is an integral part of our organisation's skills retention strategy.

Figure 5.13B

Coaching is an Integral Part of Organisations' Skills Retention Strategy

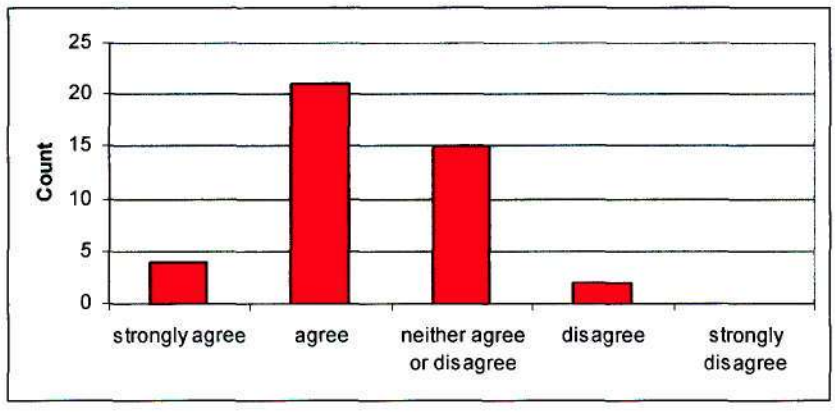


Table 5.13B

Coaching is an Integral Part of Organisations' Skills Retention Strategy

		Frequency	Percent	Cumulative Percent
	strongly agree	4	9.5	9.5
	agree	21	50.0	59.5
	neither agree or disagree	15	35.7	95.2
	disagree	2	4.8	100.0
	strongly disagree	0	0	0
	Total	42	100.0	

14. Mentoring is an integral part of our organization's skills retention strategy.

Figure 5.14B

Mentoring is an Integral Part of Organisations' Skills Retention Strategy

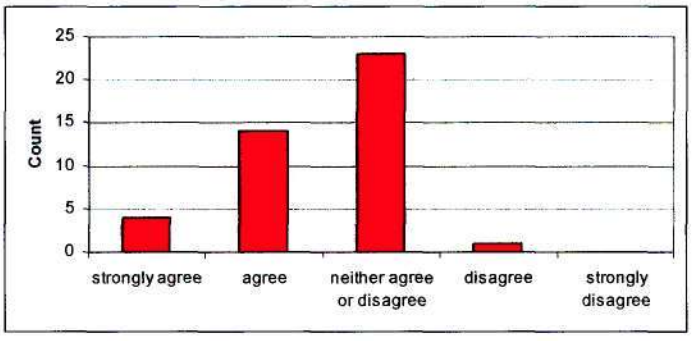


Table 5.14B

Mentoring is an Integral Part of Organisations' Skills Retention Strategy

		Frequency	Percent	Cumulative Percent
	strongly agree	4	9.5	9.5
	agree	14	33.3	42.9
	neither agree or disagree	23	54.8	97.6
	disagree	1	2.4	100.0
	strongly disagree	0	0	0
	Total	42	100.0	

15. Skills transfer from older employees to younger employees is key to ensuring sustainability of skills for the future.

Figure 5.15B

The Importance of Skills Transfer

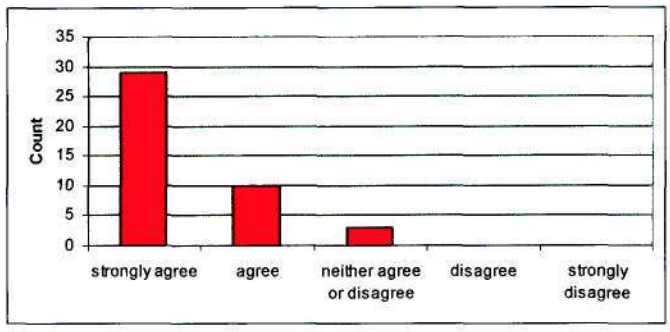


Table 5.15B

The Importance of Skills Transfer

		Frequency	Percent	Cumulative Percent
	strongly agree	29	69.0	69.0
	agree	10	23.8	92.9
	neither agree or disagree	3	7.1	100.0
	disagree	0	0	0
	strongly disagree	0	0	0
	Total	42	100.0	

16. Helping trainees to apply what they have been taught contributes to improved training.

Figure 5.16B

Helping Employees Apply What they have been Taught Improves Training

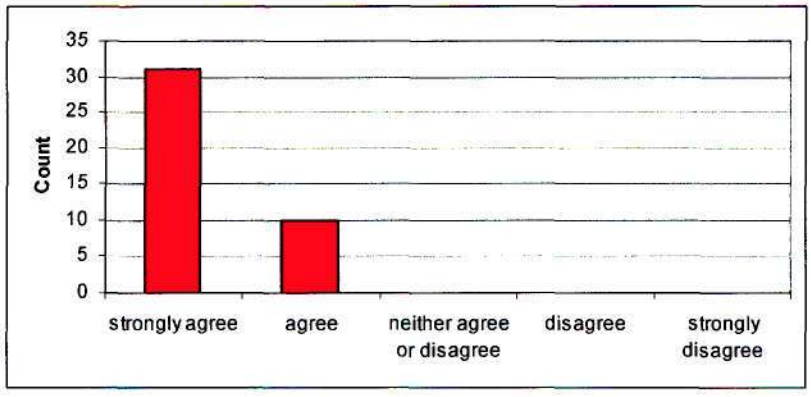


Table 5.16

Helping Employees Apply What they have been Taught Improves Training

		Frequency	Percent	Cumulative Percent
	strongly agree	31	75.6	75.6
	agree	10	24.4	100.0
	neither agree or disagree	0	0	0
	disagree	0	0	0
	strongly disagree	0	0	0
	Total	41	100.0	

17. Implementing a Workplace Skills Plan is key to accelerating skills development.

Figure 5.17B

Implementing A Workplace Skills Plan is Key to Accelerating Skills Development

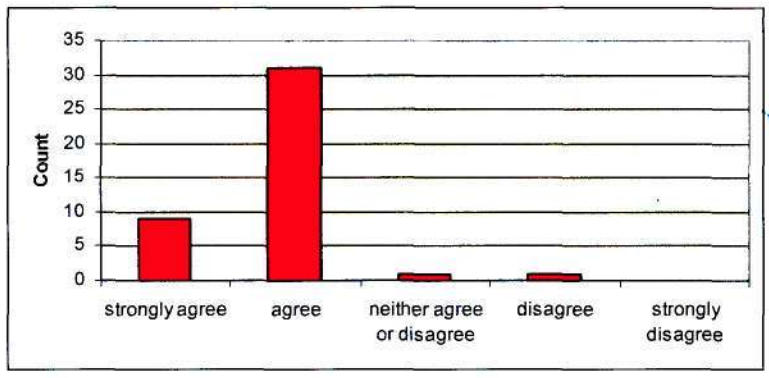


Table 5.17B

Implementing A Workplace Skills Plan is Key to Accelerating Skills Development

		Frequency	Percent	Cumulative Percent
	strongly agree	9	21.4	21.4
	agree	31	73.8	95.2
	neither agree or disagree	1	2.4	97.6
	disagree	1	2.4	100.0
	strongly disagree	0	0	0
	Total	42	100.0	

18. Career development plays an important role in facilitating skills development.

Table 5.18B

The Role of Career Development in Skills Development

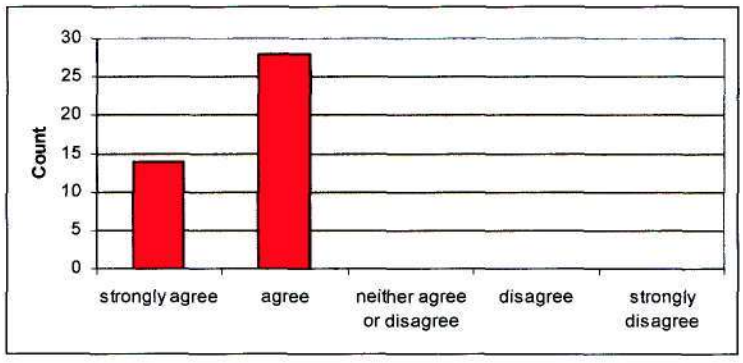


Table 5.18B

The Role of Career Development in Skills Development

		Frequency	Percent	Cumulative Percent
	strongly agree	14	33.3	33.3
	agree	28	66.7	100.0
	neither agree or disagree	0	0	0
	disagree	0	0	0
	strongly agree	0	0	0
	Total	42	100.0	

19. Performance management processes improve the skills level of employees.

Figure 5.19

Performance Management Processes Improve Skills Levels of Employees

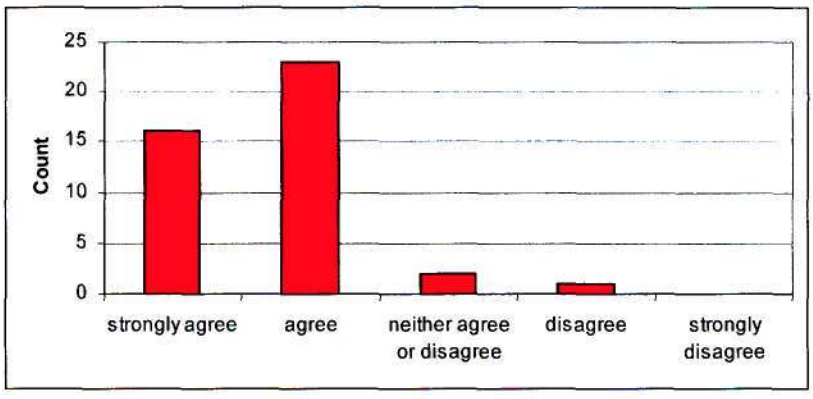


Table 5.19B

Performance Management Processes Improve Skills Levels of Employees

		Frequency	Percent	Cumulative Percent
	strongly agree	16	38.1	38.1
	agree	23	54.8	92.9
	neither agree or disagree	2	4.8	97.6
	disagree	1	2.4	100.0
	strongly disagree	0	0	0
	Total	42	100.0	

20. The national skills development policies provide effective guidelines for our organisation to carry our skills development activities.

Figure 5.20B

Skills Development Policies Provide Effective Guidelines for Organisations to Carry Out Skills Development Activities

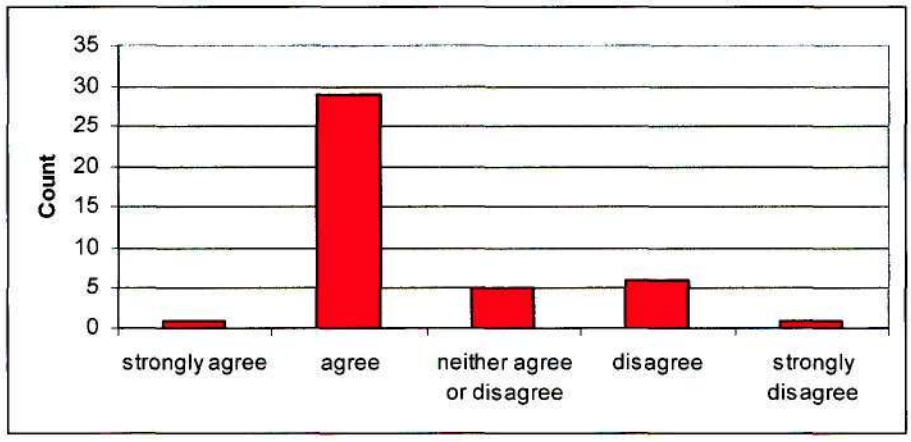


Table 5.20B

Skills Development Policies Provide Effective Guidelines for Organisations to Carry Out Skills Development Activities

		Frequency	Percent	Cumulative Percent
	strongly agree	1	2.4	2.4
	agree	29	69.0	71.4
	neither agree or disagree	5	11.9	83.3
	disagree	6	14.3	97.6
	strongly disagree	1	2.4	100.0
	Total	42	100.0	

21. The national skills development legislation provides effective guidelines for our organisation to carry out skills development activities.

Figure 5.21B

The National Skills Development Legislation Provides Effective Guidelines for Organisations to Carry Out Skills Development Activities

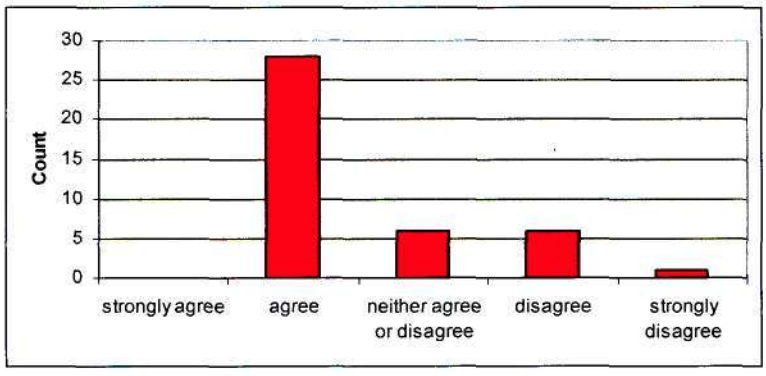


Table 5.21B

The National Skills Development Legislation Provides Effective Guidelines for Organisations to Carry Out Skills Development Activities

		Frequency	Percent	Cumulative Percent
	strongly agree	0	0	0
	agree	28	68.3	68.3
	neither agree or disagree	6	14.6	82.9
	disagree	6	14.6	97.6
	strongly disagree	1	2.4	100.0
	Total	41	100.0	

22. Skills development is essential for achieving employment equity.

Figure 5.22B

Skills Development is Key for Achieving Employment Equity

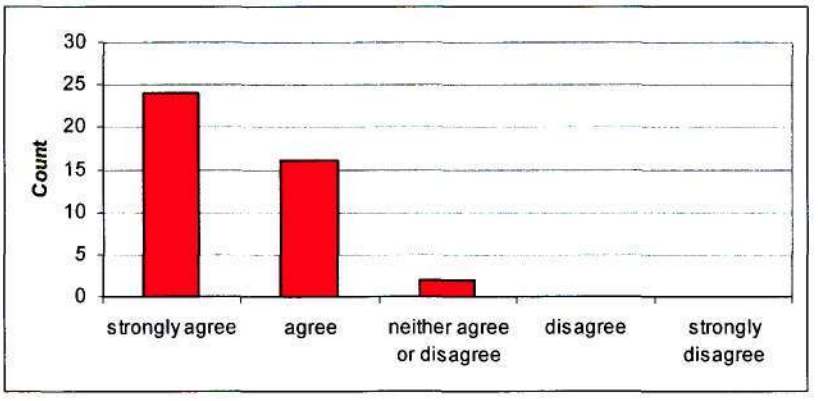


Table 5.22B

Skills Development is Key for Achieving Employment Equity

		Frequency	Percent	Cumulative Percent
	strongly agree	24	57.1	57.1
	agree	16	38.1	95.2
	neither agree or disagree	2	4.8	100.0
	disagree	0	0	0
	strongly disagree	0	0	0
	Total	42	100.0	

23. The degree of the shortage of skills in the following job categories

Table 5.23B

Engineering Skills

	Mechanical	Electrical	Industrial	Control	Metallurgical
zero shortage	4	2		1	
low shortage	4	6	3		
moderate shortage	21	20	19	7	
high shortage	7	2	5	10	8
very high shortage	2	2	2	3	10

Figure 5.23B

Engineering Skills

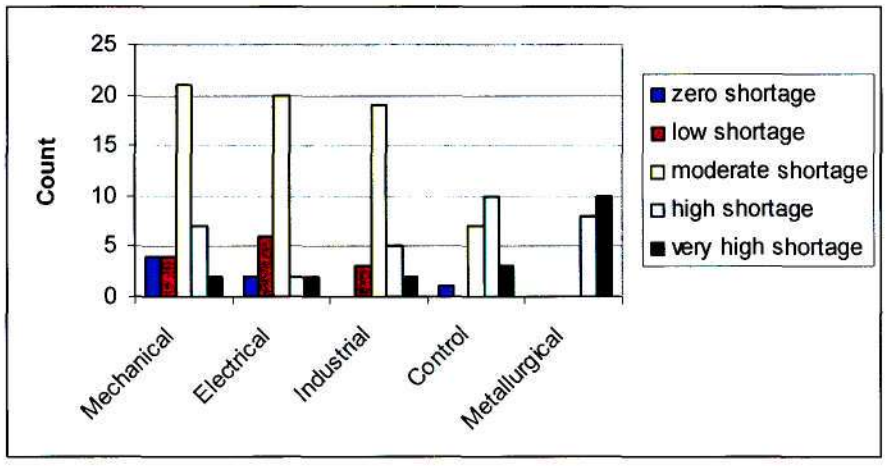


Table 5.24B

Technician Skills

	Electrical	Mechanical	Instrumentation and Control
zero shortage	6	6	2
low shortage	10	13	6
moderate shortage	15	13	10
high shortage	3	6	6
very high shortage	1	1	2

Figure 5.24B

Technician Skills

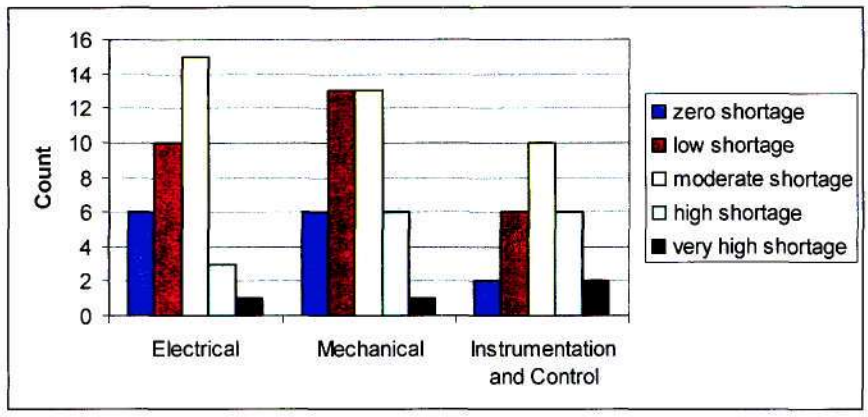


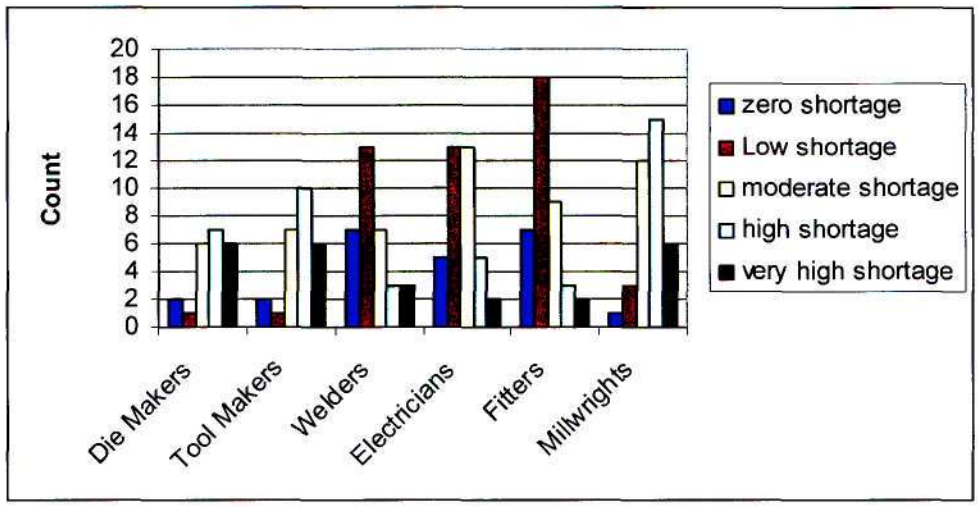
Table 5.25B

Trade Skills

	Die Makers	Tool Makers	Welders	Electricians	Fitters	Millwrights
zero shortage	2	2	7	5	7	1
Low shortage	1	1	13	13	18	3
moderate shortage	6	7	7	13	9	12
high shortage	7	10	3	5	3	15
very high shortage	6	6	3	2	2	6

Figure 5.25B

Trade Skills



2.4 The extent to which the following factors hamper skills development.

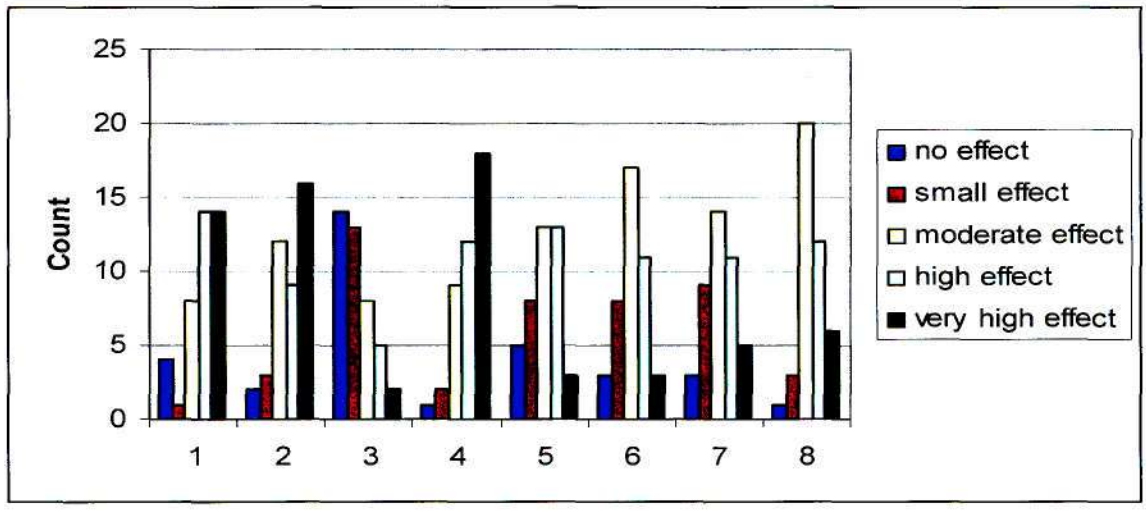
Table 5.26B

Factors that Hamper Skills Development

Question	1	2	3	4	5	6	7	8
no effect	4	2	14	1	5	3	3	1
small effect	1	3	13	2	8	8	9	3
moderate effect	8	12	8	9	13	17	14	20
high effect	14	9	5	12	13	11	11	12
very high effect	14	16	2	18	3	3	5	6

Figure 5.26B

Factors that Hamper Skills Development



Key:

1. A lack of capital to conduct training
2. A lack of management support to training and development
3. A lack of technically qualified trainers
4. A lack of support by supervisors to facilitate the transfer of skills to the workplace
5. Ineffective training and development practices
6. Ineffective training and development procedures
7. Lack of training evaluation
8. Inadequate training needs assessment

25. The extent to which the following factors present difficulty for your organisation to attract and retain young, highly skilled people.

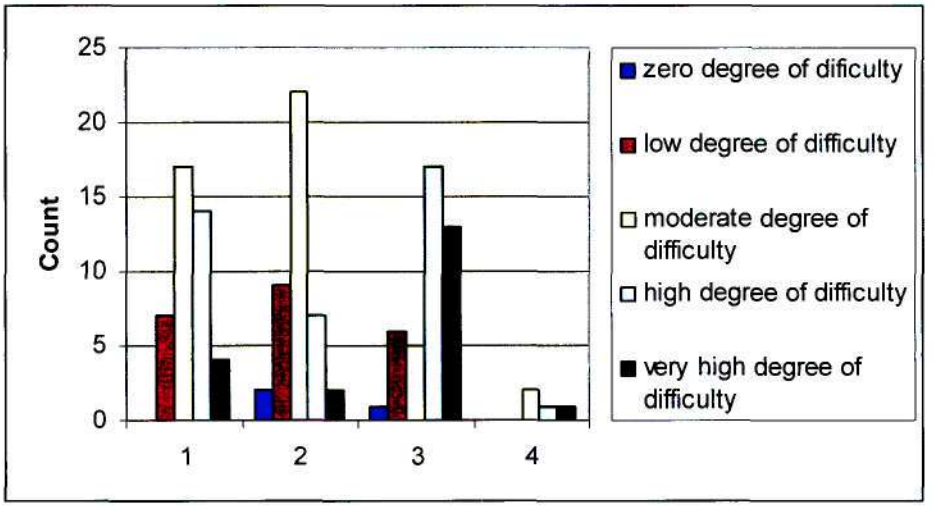
Table 5.27B

Factors Which Present Difficulty for Organisations to Attract and Retain Young, Highly Skilled People

Question	1	2	3	4
zero degree of difficulty		2	1	
low degree of difficulty	7	9	6	
moderate degree of difficulty	17	22	5	2
high degree of difficulty	14	7	17	1
very high degree of difficulty	4	2	13	1

Figure 5.27B

Factors Which Present Difficulty for Organisations to Attract and Retain Young, Highly Skilled People



Key:

1. Limited career development opportunities
2. Lack of training and development opportunities
3. Poor remuneration policies and practices
4. Other

26. The top 5 strategies that you believe could lead to improved skills development and ensure a sustainable base for the future.

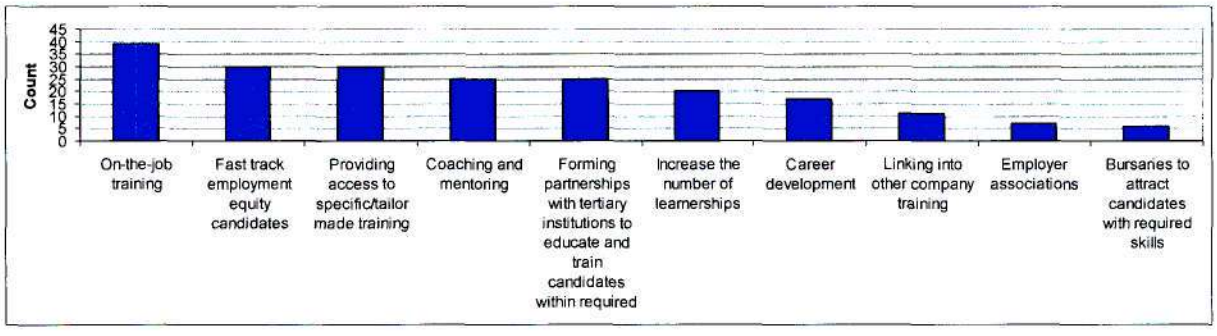
Table 5.28B

The Top 5 Strategies Organisations Believe Lead too Improved Skills Development

On-the-job training	39
Fast track employment equity candidates	30
Providing access to specific/tailor made training	30
Coaching and mentoring	25
Forming partnerships with tertiary institutions to educate and train candidates within required technical disciplines	25
Increase the number of learnerships	20
Career development	17
Linking into other company training	11
Employer associations	7
Bursaries to attract candidates with required skills	6

Figure 5.28B

The Top 5 Strategies Organisations Believe Lead too Improved Skills Development



5.4 SUMMARY OF RESULTS

Approximately 50% of the respondents, which is the largest portion of respondents, belong to the Metal & Engineering sub-sector and the smallest portion of the respondents (2.4%) belong to the New Tyre Manufacture sub-sector. This is probably because the Metal and Engineering sector is one of the largest sectors in KZN and the New Tyre Manufacture is one of the smallest sub-sectors in KZN (MERSETA, 2004:10). The average number of the total number of employees in the different organisations is 569.5 persons. About 71% of the respondents in this survey have training committees in their organisations and 61% of them do not have a

training and development departments. On average about 1.2 training specialist are employed per organisation. Most of the respondents (70.7%) indicated that they have a separate budget for training. The highest percentages of approximate costs as a percent of employment costs is 1% and 2 %. On average 247.1 employees received off the job training since January 2004. There is a high level of importance about training within organisations as 64.3% of the respondents agree that their management place a high importance on training.

The results show that 50% of the respondents agree that the rate of skills development within their organisations is inadequate compared to the high demand for skilled people required within their organisations, compared to 26.2% of the respondents who disagree with this statement. The results indicate that 59.5% of the respondents agree that their organisations are currently facing a skills shortage. In line with this, 47.6% of the respondents agree that their organisations have a shortage of managers who are competent in both technical and people management skills compared to 23.8% who disagree with this statement. It is imperative to state that 97.7% of the respondents indicated that there is a shortage of qualified Africans, Coloureds and Indians with technical and management skills. Most of the respondents agree (90.4%) state that they experience difficulties in filling technical vacancies whilst 42.9% disagree that they experience difficulty in filling management vacancies. Of the respondents, 50% agree that HIV/AIDS poses a threat to the sustainability of skills development, 28.6% are neutral and 21.4% disagree. With regard to a shortage of skills posing a threat to the growth of organisations, 66.7% of the respondents agree with this statement. Likewise, 71.4% of the respondents feel that the shortage of skills threatens the competitiveness of their organisations and 95.2% feel that skills development will make a real contribution to improving the profitability of the organisation.

Majority of the respondents (78.6%) agree that attracting and retaining young, highly skilled people is difficult and 69% of the respondents recognise that skills development is an integral part of their skills retention strategies. With regard to coaching, 59.5% of the respondents agree that coaching is also an integral part of their organisation's skills retention strategy. Most of the respondents (54.8%) were neutral with regard to mentorship being important to skill retention. Most of the respondents (92.8%) support the fact that skills transfer from older employees to younger employees is the key to ensuring the sustainability of skills for the future and all agree that helping trainees to apply whatever they have been taught contributes to improved training.

Implementing a Workplace Skills Plan is regarded as key to accelerating skills development by 95.2% of the respondents. Similarly 100% of the respondents agree that career development plays an important role in facilitating skills development. With regard to performance management, 92.9 % of the respondents agree that performance management processes improve skill levels of employees.

The statement pertaining to the national skills development policies providing effective guidelines for skills development activities is supported by 71.4% of the respondents. The statement pertaining to the national skills development legislature providing effective guidelines to carry out skills development activities is supported by 68.3% of the respondents. With regard to skills development being essential for achieving employment equity, 95.2% of the respondents agree to this statement.

The highest shortage of skills exists in the metallurgical and control occupations for the engineering field and a moderate shortage in the mechanical, electrical and industrial occupations. There is a high shortage of skills in the instrumentation and control occupation for the technician field whilst there is a moderate shortage of skills in the electrical and mechanical occupations. In the trade field there is a high shortage of skills in the die maker, tool maker and millwright occupations and moderate shortage in the electrician and fitter occupations.

The results show that the following factors hamper skills development with a high to very high effect:

- lack of support by supervisors to facilitate the transfer of skills to the workplace,
- a lack of capital to conduct training, and
- a lack of management support to training and development.

According to the results the other factors which, hamper skills development to a lesser extent include:

- inadequate needs assessment,
- lack of training evaluation,
- ineffective training and development practices,
- ineffective training and development procedures, and

- a lack of technically qualified trainers.

The following factors present a high degree of difficulty for organizations to attract and retain young, highly skilled people:

- limited career development opportunities, and
- poor remuneration policies and practices.

The lack of training and development opportunities is a factor of a moderate degree of difficulty for organisations to attract and retain young, highly skilled people.

The top 5 strategies that respondents believe could lead to improved skills development and ensure a sustainable base for the future are:

- On-the-job training,
- Fast track employment equity candidates,
- Providing access to specific/tailor made training,
- Coaching and mentoring, and
- Forming partnerships with tertiary institutions to educate and train candidates within required technical disciplines.

5.5. THE NATURE OF THE DATA:

The data that is solicited from the questionnaire is clearly a majority of the qualitative type with only a few questions being of the quantitative type. The data is nominal and ordinal with Likert scales being used for Question Q1B-Q22B. As a result the data is non-parametric and hence nonparametric statistical tests, where applicable must be used (Coakes and Steed, 2003:47).

5.6. RELIABILITY ANALYSIS

Cronbachs Alpha

Cronbach's alpha was also calculated as part of the reliability test to assess how valid the results were and whether similar results will be achieved to generalise if the sample size was increased. A value of 0.7 or higher is a very good value that can lead us to say that we will get the same results if we carried out this survey with a larger sample of respondents. The Cronbach's alpha was calculated for questions Q1B-Q22B, Q24B and Q25B because they have the same scale. The results are as follows:

Table 5.29

Cronbach's Alpha

ITEM	CRONBACH'S ALPHA
Questions 1B-22B	0.8448
Question 24B	0.8770
Question 25B	0.6008

The minimum acceptable Cronbach Alpha reliability coefficient is 0.6. The reported reliability levels indicated in the above table are therefore acceptable, although Question 25B is marginal.

These alpha values are fine.

5.7. DESCRIPTIVE STATISTICS

Table 5.30

Descriptive Statistics of Questions 1A to 26B

	N				Std		
	Valid	Mean	Median	Mode	Deviation	Variance	Range
Q1A	41	2.71	2	2	1.21	1.46	4
Q2A	42	569.55	285	300	652.67	425975.96	2746
Q3A	41	1.29	1	1	0.46	0.21	1
Q4A	41	1.61	2	2	0.49	0.24	1
Q5A	40	1.20	1	0	1.74	3.04	10
Q6A	41	1.29	1	1	0.46	0.21	1
Q7A	48	2.24	2	1	1.27	1.61	5.75

	N				Std		
	Valid	Mean	Median	Mode	Deviation	Variance	Range
Q8A	38	247.08	120	84.00(a)	292.60	85617.64	1195
Q9A	42	3.81	4	4	0.83	0.69	3
Q1B	42	2.76	2.5	2	0.93	0.87	4
Q2B	42	2.64	2	2	0.85	0.72	2
Q3B	42	2.69	3	2	0.92	0.85	3
Q4B	42	1.62	2	2	0.62	0.39	3
Q5B	42	1.95	2	2	0.73	0.53	3
Q6B	42	3.07	3	4	1.02	1.04	4
Q7B	42	2.67	2.5	2	0.87	0.76	3
Q8B	42	2.48	2	2	0.83	0.69	4
Q9B	42	2.43	2	2	0.86	0.74	4
Q10B	42	1.67	2	2	0.57	0.33	2
Q11B	42	2.05	2	2	0.82	0.68	3
Q12B	42	2.21	2	2	0.68	0.47	3
Q13B	42	2.36	2	2	0.73	0.53	3
Q14B	42	2.50	3	3	0.71	0.50	3
Q15B	42	1.38	1	1	0.62	0.39	2
Q16B	41	1.24	1	1	0.43	0.19	1
Q17B	42	1.86	2	2	0.57	0.32	3
Q18B	42	1.67	2	2	0.48	0.23	1
Q19B	42	1.71	2	2	0.67	0.45	3
Q20B	42	2.45	2	2	0.86	0.74	4
Q21B	41	2.51	2	2	0.84	0.71	3
Q22B	42	1.48	1	1	0.59	0.35	2
Q23EMECH	38	2.95	3	3	1.04	1.08	5
Q23EELEC	32	2.84	3	3	0.95	0.91	5
Q23EINDUS	29	3.21	3	3	0.73	0.53	3
Q23ECONT	21	3.67	4	4	0.91	0.83	4
Q23EMET	18	4.56	5	5	0.51	0.26	1
Q23TELEC	35	2.51	3	3	0.98	0.96	4
Q23TMECH	39	2.56	3	2.00(a)	1.02	1.04	4
Q23TINCNT	26	3.00	3	3	1.06	1.12	4
Q23TDIE	22	3.64	4	4	1.22	1.48	4
Q23TTOOL	26	3.65	4	4	1.13	1.28	4
Q23TWELD	33	2.45	2	2	1.20	1.44	4
Q23TELEC	38	2.63	3	2.00(a)	1.05	1.10	4
Q23TFITT	39	2.36	2	2	1.04	1.08	4
Q23TMILL	37	3.59	4	4	0.96	0.91	4
Q24.1B	41	3.80	4	4.00(a)	1.23	1.51	4
Q24.2B	42	3.81	4	5	1.17	1.38	4
Q24.3B	42	2.24	2	1	1.19	1.41	4
Q24.4B	42	4.05	4	5	1.03	1.07	4
Q24.5B	42	3.02	3	3.00(a)	1.14	1.29	4
Q24.6B	42	3.07	3	3	1.02	1.04	4
Q24.7B	42	3.14	3	3	1.12	1.25	4
Q24.8B	42	3.45	3	3	0.92	0.84	4
Q25.1B	42	3.36	3	3	0.88	0.77	3

	N	Mean	Median	Mode	Std Deviation	Variance	Range
	Valid						
Q25.2B	42	2.95	3	3	0.88	0.78	4
Q25.3B	42	3.83	4	4	1.10	1.22	4
Q25.4B	4	3.75	3.5	3	0.96	0.92	2
Q26.1B	39	1.00	1	1	0.00	0.00	0
Q26.2B	25	1.00	1	1	0.00	0.00	0
Q26.3B	17	1.00	1	1	0.00	0.00	0
Q26.4B	30	1.00	1	1	0.00	0.00	0
Q26.5B	11	1.00	1	1	0.00	0.00	0
Q26.6B	6	1.00	1	1	0.00	0.00	0
Q26.7B	25	1.00	1	1	0.00	0.00	0
Q26.8B	20	1.00	1	1	0.00	0.00	0
Q26.9B	7	1.00	1	1	0.00	0.00	0
Q26.10B	30	1.00	1	1	0.00	0.00	0

Key:

Questions marked A e.g. Q1A refers to questions contained in Section A of the report

Questions marked B e.g. Q1B refers to questions contained in Section B of the questionnaire

EMECH - Engineering - Mechanical

EELEC - Engineering - Electrical

EINDUS - Engineering - Industrial

ECONT - Engineering - Control

EMET - Engineering - Metallurgy

TELEC - Technician - Electrical

TMECH - Technician - Mechanical

TINCNT - Technician – Instrumentation and Control

TDIE - Trade – Die Maker

TTOOL - Trade – Toolmaker

TWELD - Trade - Welder

TELEC - Trade - Electrician

TFITT - Trade - Fitter

TMILL - Trade Millwright

The mean, the mode, the median, the sample variance and the sample standard deviation are considered. The mean or the arithmetic mean is the sum of all the values divided by the sample size, the mode is the most frequent response given by the respondents and the median is the middle most value when the data (per variable/question) is arranged from highest to

lowest. The sample variance is the degree or quantity by which each observation varies one from another. The sample standard deviation is the square root of the sample variance (Coakes and Steed, 2003:50).

With the exceptions of questions 2a and 8a the standard deviations are very large due to the fact that these questions both capture interval data or more specifically the number of employees. As from the table above, the majority of the questions have a mode of "2" for questions 1B-22B, which represents a response of "agree". The standard deviations are consistently about 1 and this indicates good consistency between the observations due to the low variability. The mean and median values are consistent with modal values.

5.8. CORRELATION ANALYSIS

A correlation analysis was carried out on Question 1B-22B with respect to the attitudes and feelings of the respondents towards skills development. According to Coakes and Steed (2003:206), a non-parametric alternative to the parametric bivariate (Pearson's r) is Spearman's rho. Due to the nonparametric nature of these questions, Spearman's rank order correlation was used. A value close enough to 1 or -1 will indicate evidence of a linear relationship. Only the noteworthy relationships are given below:

Table 5.31

Correlation Analysis

	Q1B	Q2B	Q4B	Q5B	Q6B	Q7B	Q8B	Q9B	Q12B	Q13B	Q14B	Q20B	Q21B
Q1B	1.00	0.33	0.43	0.53*	0.42	0.40	0.34	0.38	-0.22	-0.10	0.01	-0.21	-0.09
Q2B	0.33	1.00	0.39	0.40	0.42	0.56*	0.57*	0.47	0.21	0.40	0.28	-0.01	0.23
Q3B	0.58*	0.48	0.32	0.47	0.74**	0.36	0.46	0.38	-0.01	0.01	0.01	-0.17	-0.13
Q4B	0.43	0.39	1.00	0.56*	0.27	0.29	0.33	0.17	-0.10	-0.14	-0.12	-0.24	0.00
Q5B	0.53*	0.40	0.56*	1.00	0.48	0.46	0.58*	0.49	0.14	-0.05	-0.02	-0.24	-0.07
Q6B	0.42	0.42	0.27	0.48	1.00	0.35	0.30	0.23	0.18	0.02	0.14	-0.14	-0.15
Q7B	0.40	0.56*	0.29	0.46	0.35	1.00	0.34	0.44	0.11	0.16	0.13	0.01	0.17
Q8B	0.34	0.57*	0.33	0.58*	0.30	0.34	1.00	0.72**	0.15	0.16	0.00	-0.21	-0.04
Q9B	0.38	0.47	0.17	0.49	0.23	0.44	0.72**	1.00	0.05	0.21	0.06	-0.20	-0.03
Q12B	-0.22	0.21	-0.10	0.14	0.18	0.11	0.15	0.05	1.00	0.67**	0.56*	0.22	0.19
Q13B	-0.10	0.40	-0.14	-0.05	0.02	0.16	0.16	0.21	0.67**	1.00	0.80**	0.27	0.41
Q14B	0.01	0.28	-0.12	-0.02	0.14	0.13	0.00	0.06	0.56*	0.80**	1.00	0.09	0.22
Q20B	-0.21	-0.01	-0.24	-0.24	-0.14	0.01	-0.21	-0.20	0.22	0.27	0.09	1.00	0.85**
Q21B	-0.09	0.23	0.00	-0.07	-0.15	0.17	-0.04	-0.03	0.19	0.41	0.22	0.85**	1.00

KEY:

**	Significant at the 1% level
*	Significant at the 5% level
shading	Moderately strong relationship
shading	Very strong relationship

From the above table, a value between 0.5 and 1 or –1 and –0.5 would indicate the presence of a linear relationship.

The correlation analysis looks at the relationships, which exist between certain questions. A correlation analysis was used as it indicates how one variable relates to the other. A correlation analysis is valuable in that it consists of measuring the variables and then determining the degree of the relationship that exists between the variables. In this research study a correlation analysis was used to ascertain which factors matter most to the respondents with regard to skills development in the Manufacturing, Engineering and Related Services Sector. The section that follows the Key provides an explanation of the relationship that exists between the various factors and how these correlations relate to the hypotheses.

Below is a key, which identifies the questions contained in the correlation analysis.

Key

Question No.	**Question**
Q1B	The rate of skills development within my organisation is inadequate compared to the high demand for skilled people required within my organisation.
Q2B	My organisation is currently facing a skills shortage.
Q3B	My organisation has a shortage of managers who are competent in both technical and people management skills.
Q4B	There is a shortage of qualified and experienced Africans, Coloureds and Indians with technical and management skills.
Q5B	My organisation experiences difficulty in filling technical vacancies
Q6B	My organisation experiences difficulty in filling management vacancies.
Q7B	The impact of HIV and AIDS poses a threat to the sustainability of skills development, within my organisation.

Q8B	The shortage of skills within the organisation poses a threat to the growth of our organisation.
Q9B	The shortage of skills within the organisation poses a threat to the competitiveness of our organisation.
Q12B	Skills development is an integral part of our organisation's skills retention strategy
Q13B	Coaching is an integral part of our organisation's skills retention strategy.
Q14B	Mentoring is an integral part of our organisation's skills retention strategy.
Q20B	The national skills development policies provide effective guidelines for our organisation to carry out skills development activities.
Q21B	The national skills development legislation provides effective guidelines for our organisation to carry out skills development activities.

Correlations exist between the following questions:

Question 1B and 5B. The correlation exists between the rate of skills development within organisations being inadequate compared to the high demand for skilled people and organisations experiencing difficulty in filling technical vacancies. The correlation co-efficient for question 1B and 5B is 0.53 and indicates a moderately strong relationship between the two factors. This result is significant at the 5% level, which indicates there is 95% confidence that a moderately strong relationship exists between the two factors. This result indicates that the inadequate rate of skills development within organisations influences the organisations' ability to fill technical vacancies. This could also be an indication that organisations are not developing technical skills fast enough in order to meet the high demand for such skills.

This correlation relates to hypothesis 1 in that hypothesis 1 refers to there being shortage of skills within the Manufacturing, Engineering and Related Services Sector and the correlation also indicates that there could be a shortage of skills within this sector. The above correlation indicates a positive relationship between the rate of skills development in organisations being inadequate compared to the high demand for skilled people and organisations experiencing difficulty in filling technical vacancies. This could be influencing the shortage of skills within this sector. Question 1B and 5B are among the questions that were used to test

hypothesis 1 as these factors relate to the shortage of skills within the Manufacturing, Engineering and Related Services Sector.

Question 2B and 7B and 8B. The correlation exists between organisations facing skills shortages, the impact of HIV/AIDS on skills development and the shortage of skills posing a threat to the growth of organisations. The correlation co-efficients for question 2B and 7B and 8B are 0.56 and 0.57 respectively and indicate a moderately strong relationship between these factors. This result is significant at the 5% level, which shows there is 95% confidence that a moderately strong relationship exists between these factors. This result indicates that HIV and AIDS could be a factor that retards the rate of skills development within the Manufacturing, Engineering and Related Services Sector and could be contributing to the skills shortages experienced by organisations in this sector. These skills shortages in turn pose a threat to the growth of organisations within this sector.

This correlation relates to hypothesis 2 in that hypothesis 2 looks at the shortage of skills within the Manufacturing Engineering and Related Services Sector, which could hamper growth in certain parts of this sector. This correlation also indicates a positive relationship between organisations facing skills shortages and such shortages posing a threat to the growth of organisations within the Manufacturing, Engineering and Related Services Sector.

Question 3B and 6B. The correlation exists between a shortage of managers who are competent in both technical and people management skills and organisations experiencing difficulty in filling management vacancies. The correlation co-efficient for question 3B and 6B is 0.74 and indicates a strong relationship between these two factors. This result is significant at the 1% level, which indicates that there is 99% confidence that a strong relationship exists between these two factors. This relationship shows that there is a shortage of managers with technical and management skills within this sector. The shortage of such skills impacts negatively on the organisations' ability to fill management positions.

This correlation relates to hypothesis 1 in that hypothesis 1 looks at the shortage of skills within the Manufacturing, Engineering and Related Services Sector and this correlation also indicates a positive relationship between a shortage of managers who are competent in both technical and people management skills and organisations experiencing difficulty in filling management vacancies. This shows that organisations are experiencing a shortage of skills.

Question 3B and 6B are among the questions that were used to test hypothesis 1 as these factors relate to the shortage of skills within the Manufacturing, Engineering and Related Services Sector.

Question 4B and 5B. The correlation exists between the shortage of qualified and experienced Africans, Coloured and Indians with technical and management skills and organisations' experiencing difficulty in filling technical vacancies. The correlation co-efficient for question 4B and 5B is 0.56 and this indicates a moderately strong relationship between the two factors. This relationship is significant at the 5% level, which indicates 95% confidence that a moderately strong relationship exists between these two factors. This relationship shows that there is a shortage of blacks with technical and management skills compared to the high demand for such people and as a result organisations have no pool from which to source suitably qualified blacks. This shortage of suitably qualified blacks adversely affects the organisations' ability to fill technical vacancies.

This correlation relates to hypothesis 1 in that hypothesis 1 looks at the shortage of skills within the Manufacturing, Engineering and Related Services Sector and this correlation also indicates a positive relationship between the shortage of qualified and experienced Africans, Coloured and Indians with technical and management skills and organisations' experiencing difficulty in filling technical vacancies. This shows that organisations are experiencing a shortage of skills. Question 4B and 5B are among the questions that were used to test hypothesis 1 as these factors relate to the shortage of skills within the Manufacturing, Engineering and Related Services Sector.

Question 5B and 8B. The correlation exists between organisations experiencing difficulty n filling technical vacancies and the shortage of skills posing a threat to the growth of organisations within this sector. The correlation co-efficient for question 5B and 8B is 0.58 and this indicates a moderately strong relationship between these two factors. This relationship is significant at the 5% level, which indicates 95% confidence that a moderately strong relationship exists between these two factors. This relationship indicates that if there are too few skilled people compared to the high demand for skilled people, organisations will experience difficulty in sourcing candidates to fill these vacancies. This shortage of skills will in turn pose a threat to the organisations' ability to grow.

This correlation relates hypothesis 2 in that hypothesis 2 looks at the skills shortage within this sector which could hamper growth in certain parts of the sector and the correlation also indicates a positive relationship between organisations experiencing difficulty in filling technical vacancies and the shortage of skills posing a threat to the growth of organisations within the Manufacturing, Engineering and Related Services Sector.

Question 8Band 9B. The correlation exists between a shortage of skills posing a threat to the growth of organisations and the shortage of skills posing a threat to the competitiveness of organisations. The correlation co-efficient for question 8B and 9B is 0.72 and this indicates a strong relationship between these two factors. This relationship is significant at the 1% level which indicates 99% confidence that a relationship does exist between these two factors. This shows that the skills shortages within this sector pose a serious threat to the growth and competitiveness of the organisations within this sector.

This correlation relates to hypothesis 2 in that hypothesis 2 looks at the skills shortage within this sector, which could hamper growth in certain parts of the sector and the correlation indicates a positive relationship between a shortage of skills posing a threat to the growth of organisations and the shortage of skills posing a threat to the competitiveness of organisations. Question 8B and 9B are among the questions used to test hypothesis 2 as these factors related to the shortage of skills within this sector posing a threat to the growth and competitiveness of this sector.

Question 12B and13B and14B. The correlation exists between skills development being important to skills retention strategies and coaching and mentorship as key skills retention interventions. The correlation co-efficients for question 12B and 13B and 14B are 0.67 and 0.56 respectively and indicate a moderately strong relationship between these three factors. This relationship is significant at the 1% level and 5% level respectively which indicates 99% and 95% confidence that a relationship does exist among these three factors. This relationship indicates that organisations regard skills development as being a key factor in skills retention and believe that coaching and mentorship are important interventions in skills retention.

This correlation relates to hypotheses 4 , 5 and 7. Hypothesis 4 considers that a large portion of this sector's skilled workforce will retire in a few years time and the skills they possess will be difficult to replace. This hypothesis also considers coaching and mentorship as key

interventions for organisations to grow and retain skills. Hypothesis 5 considers that young, highly skilled people are highly mobile and that skills development is important for skills retention. Hypothesis 7 looks at the difficulty organisations face with regard to retaining young, highly skilled people and what can be done by organisations to retain skills.

This correlation indicates that a positive relationship exists between skills development being important to skills retention strategies and coaching and mentorship as key skills retention interventions. Question 12B, 13B and 14B were among the questions used to test hypotheses 4, 5 and 7.

Question 13B and 14B. The correlation exists between coaching and mentorship being regarded as key skills retention interventions. The correlation co-efficient for question 13B and 14B is 0.80 and indicates a strong relationship between these two factors. This relationship is significant at the 1% level which indicates 99% confidence that a relationship does exist between these two factors. This relationship proves that coaching and mentorship are important interventions in the skills development and retention process.

As mentioned above this correlation also relates to hypotheses 4, 5 and 7. These hypotheses consider coaching and mentorship as key interventions for organisations to grow and retain skills. The correlation indicates a positive relationship between coaching and mentorship which are regarded as key skills retention strategies. Questions 13B and 14B were also among the questions used to test hypotheses 4, 5 and 7.

Question 20B and 21B. The correlation exists between national skills development policies providing effective guidelines for skills development activities and the national skills development legislation providing effective guidelines for skills development activities. The correlation co-efficient for question 20B and 21B is 0.85 and indicates a strong relationship between these two factors. This relationship is significant at the 1% level which indicates 99% confidence that a relationship does exist between these two factors. This indicates that the skills development legislation and policies provide effective guidelines for organisations to carry out skills development activities.

This correlation does not relate to any of the hypotheses. Question 20B and 21B were not used to test any of the hypotheses.

5.9. HYPOTHESES TESTS

According to Coakes and Steed (2003:195), the Chi-Square test for independence or relatedness applies to the analysis of relationships between two categorical variables. In order to test these hypotheses, the Chi-Square test was used because of the nonparametric nature of the data.

Hypothesis Test 1

H_0: There is no shortage of skills in the Manufacturing, Engineering and Related Services Sector.

H_1: There is a shortage of skills in the Manufacturing, Engineering and Related Services Sector.

Questions 1-6 were used to test this hypothesis. The results are as follows:

Table 5.32

Hypothesis 1 Test Statistics

	Q1B	Q2B	Q3B	Q4B	Q5B	Q6B
Chi-Square(a)	26.848	7.331	25.425	5.518	17.625	48.035
Df	4	2	3	2	3	4
Asymp. Sig.	.000	.026	.000	.063	.001	.000

At the 5%(α=0.05), H_0 will be rejected if the p-value (Asymp-sig) is less than 0.05. Thus H_0 is rejected for all of the above questions except question 4B and it is concluded that there is a shortage of skills in the Manufacturing, Engineering and Related Services Sector. For question 4B, H_0 is not rejected and it is concluded that there is no shortage of skills in the Manufacturing, Engineering and Related Services Sector, for this question only. H1 is therefore accepted except for question 4B where H1 is rejected. This could be an indication that question 4B should not have been included in testing this hypothesis. This would require further research. As it was not the purpose of this research it was not be included in this research.

Hypothesis Test 2

H_0: The shortage of skills in the Manufacturing, Engineering and Related Services Sector could not hamper growth in certain parts of the sector.

H_1: The shortage of skills in the Manufacturing, Engineering and Related Services Sector could hamper growth in certain parts of the sector.

Questions 8-10 were used to test this hypothesis. The results are as follows:

Table 5.33

Hypothesis 2 Test Statistics

	Q8B	Q9B	Q10B
Chi-Square(a)	32.148	35.164	5.482
Df	4	4	2
Asymp. Sig.	.000	.000	.046

At the 5%(α=0.05), H_0 will be rejected if the p-value (Asymp-sig) is less than 0.05. Thus H_0 is rejected for all of the above questions and it is concluded that the shortage of skills in the Manufacturing, Engineering and Related Services Sector could hamper growth in certain parts of the sector. H1 is therefore accepted.

Hypothesis Test 3

H_0: There is a fast rate of skills development in the Manufacturing, Engineering and Related Services Sector.

H_1: There is a slow rate of skills development in the Manufacturing, Engineering and Related Services Sector.

Question 1 was used to test this hypothesis. The results are as follows:

Table 5.34

Hypothesis 3 Test Statistics

	Q1B
Chi-Square(a)	29.041
Df	4
Asymp. Sig.	.000

At the 5%(α=0.05), H_0 will be rejected if the p-value (Asymp-sig) is less than 0.05. Thus H_0 is rejected for the above question and it is concluded that there is a slow rate of skills development in the Manufacturing, Engineering and Related Services Sector. H1 is therefore accepted.

Hypothesis Test 4

H_0: A large portion of this sector's skilled workforce will retire in a few years time and the skills they possess will not be difficult to replace.

H_1: A large portion of this sector's skilled workforce will retire in a few years time and the skills they possess will be difficult to replace.

Questions 13-15 were used to test this hypothesis. The results are as follows:

Table 5.35

Hypothesis 4 Test Statistics

	Q13B	Q14B	Q15B
Chi-Square(a)	32.362	77.250	7.732
Df	3	3	2
Asymp. Sig.	.000	.000	.021

At the 5%(α=0.05), H_0 will be rejected if the p-value (Asymp-sig) is less than 0.05. Thus H_0 is rejected for all of the above questions and it is concluded that a large portion of this sector's skilled workforce will retire in a few years time and the skills they possess will be difficult to replace. H1 is therefore accepted.

Hypothesis Test 5

H_0: Young, highly skilled people are not highly mobile within the Manufacturing, Engineering and Related Services Sector.

H_1: Young, highly skilled people are highly mobile within the Manufacturing, Engineering and Related Services Sector.

Questions 11-15 were used to test this hypothesis. The results are as follows:

Table 5.36

Hypothesis 5 Test Statistics

	Q11B	Q12B	Q13B	Q14B	Q15B
Chi-Square(a)	6.313	24.563	32.362	77.250	7.732
Df	3	3	3	3	2
Asymp. Sig.	.097	.000	.000	.000	.021

At the 5%(α=0.05), H_0 will be rejected if the p-value (Asymp-sig) is less than 0.05. Thus H_0 is rejected for all of the above questions and it is concluded that young highly skilled people are highly mobile within the Manufacturing, Engineering and Related Services. However for question 11B, H_0 is not rejected and it is concluded that young, highly skilled people are not highly mobile within the Manufacturing, Engineering and Related Services, for this question only. H1 is therefore accepted except for question 11B where H1 is rejected. This could be an indication that question 11B should not have been included in testing this hypothesis. This would require further research. As it was not the purpose of this research it was not be included in this research.

Hypothesis Test 6

H_0: the Manufacturing, Engineering and Related Services Sector does not find difficulty in attracting young, highly skilled people.

H_1: the Manufacturing, Engineering and Related Services Sector finds difficulty in attracting young, highly skilled people.

Question 25 was used to test this hypothesis. The results are as follows:

Table 5.37

Hypothesis 6 Test Statistics

	Q25.1B	Q25.2B	Q25.3B	Q25.4B
Chi-Square(a)	38.850	75.855	4.702	5.543
Df	3	4	4	2
Asymp. Sig.	.000	.000	.019	.063

At the 5%(α=0.05), H_0 will be rejected if the p-value (Asymp-sig) is less than 0.05. Thus H_0 is rejected for all of the above questions and it is concluded that the Manufacturing, Engineering and Related Services Sector finds difficulty in attracting young highly, skilled people. However for question 25.4B, H_0 is not rejected and it is concluded that that the Manufacturing, Engineering and Related Services Sector does not find difficulty in attracting young, highly skilled people, for this question only. H1 is accepted except for question 25.4B where H1 is rejected. This could also be an indication that question 25.4B should not have been included in testing this hypothesis. This would require further research. As it was not the purpose of this research it was not be included in this research.

Hypothesis Test 7

H_0: the Manufacturing, Engineering and Related Services Sector does not find difficulty in retaining young, highly skilled people

H_1: the Manufacturing, Engineering and Related Services Sector does find difficulty in retaining young, highly skilled people

Questions 11-15 were used to test this hypothesis. The results are as follows:

Table 5.38

Hypothesis 7 Test Statistics

	Q11B	Q12B	Q13B	Q14B	Q15B
Chi-Square(a)	6.313	24.563	32.362	77.250	7.732
Df	3	3	3	3	2
Asymp. Sig.	.097	.000	.000	.000	.021

At the 5%(α=0.05), H_0 will be rejected if the p-value (Asymp-sig) is less than 0.05. Thus H_0 is rejected for all of the above questions and it is concluded that the Manufacturing, Engineering and Related Services Sector finds difficulty in retaining young, highly skilled people. However for question 11B, H_0 is not rejected and it is concluded that the Manufacturing, Engineering and Related Services Sector does not find difficulty in retaining young, highly skilled people, for this question only. H1 is therefore accepted except for question 11B where H1 is rejected. This could be an indication that question 11B should not have been included in testing this hypothesis. This would require further research. As it was not the purpose of this research it was not be included in this research.

5.10. SUMMARY

This chapter presents the sample profile, research results and a summary of the research results. Information is also presented on the nature of the data, the reliability analysis and correlation analysis carried out. Descriptive statistics and results of hypotheses tests are also presented in this chapter.

The research results were presented in the form of graphs and tables. A summary of these results pulls the research results together and highlights the main features of the research results.

A reliability analysis was also carried out to determine how reliable the results were. A correlation analysis was carried out which indicates the strength of the relationships between certain questions.

With regard to descriptive statistics, the mean, mode, median, sample variance and standard deviation were considered.

Hypotheses tests were carried out and the results of the hypotheses tests were discussed.

The following chapter will present the discussion and conclusions associated with this research.

CHAPTER 6

DISCUSSION AND CONCLUSIONS

6.1 INTRODUCTION

The purpose of this chapter is to discuss the findings of the study in terms of the research questions. The results of the hypotheses tests and correlation analysis are also discussed. Reference is also made to the literature review conducted on the same subject matter. Conclusions, based on the findings, will also be presented.

6.2. DISCUSSION OF RESULTS

6.2.1. RESEARCH QUESTIONS

6.2.1.1. What are the reasons behind the shortage of key skills in the Manufacturing, Engineering and Related Services Sector?

The results show that 29.3% of the organisations do not have training committees and 61% that do not have training and development departments (refer to Table 5.3A and Table 5.4A). The fact that some organisations do not have training committees, where consultation and discussion takes place on skills development issues, could be impacting negatively on the rate of skills development within this sector. These results show that many organisations do not have departments specifically dedicated to training and development issues and therefore this could impact on key skills not being developed at a fast enough rate to cope with the demand for such skills.

In addition, the following factors have been identified as the factors that hamper skills development with a high to very high effect: (refer to Table 5.26B)

- lack of support by supervisors to facilitate the transfer of skills to the workplace,
- a lack of capital to conduct training, and
- a lack of management support to training and development.

According to the results, 30 out of 42 (refer to Table 5.26B) respondents indicated that a lack of support by supervisors to facilitate the transfer of skills to the workplace hampers skills development with a high to very high effect. This factor had the highest number of responses in the categories, high and very high effect. This result therefore indicates that respondents considered a lack of support by supervisors to facilitate the transfer of skills to the workplace as the biggest factor that hampers skills development.

The support from supervisors is important to employees so that they can apply the skills they have learnt to the job (Gumeseli *et al,* 2002:82). Supervisors are important in the training process, as they know their employees well, understand the abilities, know who is ready for training, who is coping with the training and who is lagging behind. The results show that all the respondents agree that helping trainees apply what they have learnt contributes to improved training. However, it would appear that even though respondents have the knowledge that transfer of training is important to skills development, the rate of the transfer of training within the Manufacturing, Engineering and Related Sector is not happening at a fast enough and effective rate given the fact that this sectors has a high shortage of skills.

The results show that 28 out of 41 (refer to Table 5.26B) respondents consider a lack of capital to conduct training as a factor that hampers skills development with a high to very high effect. This factor had the second highest number of responses in the categories, high to very high effect. This result therefore indicates that respondents considered a lack of capital to conduct training as the second biggest factor that hampers skills development.

A lack of capital to conduct training is one of the major factors that hamper skills development within the Manufacturing, Engineering and Related Services Sector (MERSETA, 2004:42). It is surprising that a lack of capital to conduct training has less respondents who believe that it hampers skills development with a high to very high effect compared to a lack of support by supervisors to facilitate transfer of skills to the workplace, given the fact that the literature places greater emphasis on the lack of capital to conduct training as being one of the major factors that hamper skills development in this sector (MERSETA, 2004:42). In addition to this, given the fact that most of the companies in this sector are small (as discussed on page 56 of this report), it would have been expected that the highest number of respondents would have considered a lack of capital to conduct training as the factor that hampers skills development with a high to very high effect. Though many

respondents name a lack of capital to conduct training as one of the key factors hampering skills development, the results show that many of the respondents' organisations do have separate budgets for training. It would therefore appear that the problem possibly lies in the training budgets being too small to meet the demands for skills development within these organisations.

The results show that 25 out of 42 (refer to Table 5.26B) respondents consider a lack of management support to training and development as a factor that hampers skills development with a high to very high effect. This factor had the third highest number of responses in the categories, high to very high effect. This result therefore indicates that respondents considered a lack of management support to training and development as the third biggest factor that hampers skills development.

However, on the other hand the results show that 64.3% of the respondents agree that management places a high importance on training within their organisations. This could mean that though management within the organisations place a high importance on training, in principle, there is insufficient commitment from management to the implementation and execution of training. This is supported by the abovementioned results, which show that there are many organisations that do not have training and development departments and as a result possibly lack the manpower and expertise to implement and execute training processes. In line with these findings, the literature also confirms that a lack of management support for training compromises the training process and renders training implementation ineffective (Collins, 2002:52). The review of the literature also confirms that management support to training and development is important for effective skills development (Thomson, 2004:15).

Another factor to be considered is that though management within organisations know and agree that training is of high importance, these organisations could be facing production pressures and therefore feel that there is insufficient time to carry out training and therefore place greater emphasis on production issues. According to the MERSETA (2004:42), many of the organisations within the Manufacturing, Engineering and Related Services Sector are still more production focussed. The literature confirms that managers quote insufficient time and too much pressure as the greatest obstacles to training (Kubicek, 2004:5).

According to the results the other factors, which hamper skills development to a lesser extent include:

- inadequate needs assessment,
- a lack of training evaluation
- ineffective training and development practices,
- ineffective training and development procedures, and
- a lack of technically qualified trainers.

The literature supports the abovementioned results. Training needs assessment is considered important to achieving the training goal (Brown, 2002:569). A lack of training evaluation does not provide a way to evaluate the effectiveness of the training programme or to provide information that could lead to improvements in the programme (Goldstein, 1993:26). Ineffective training practices and procedures are barriers to skills development, as they do not focus on the skills development process and assisting people to attain the required skills levels (Lange, 200:9). The implementation of effective training practices and processes guide the training process and allow for effective management of the training process (Babb, 2001:32). A lack of technically qualified trainers could render the entire learning process unsuccessful (Cottringer, 2003:6).

6.2.1.2. What is the extent of the shortage of key skills in the Manufacturing, Engineering and Related Services Sector?

The extent of the shortage of skills can be considered serious as 50% of the respondents agree that the rate of skills development within their organisations is inadequate in relation to the high demand for skilled people within their organisations compared to 26.2% of the respondents who disagree with this statement (refer Table 5.1B). In addition, 59.5% of the respondents agree that their organisations are facing skills shortages (refer Table 5.2B). This is consistent with the literature which states that the Manufacturing, Engineering and Related Services Sector is facing a skills shortage and that the rate of development within this sector is slow and cannot keep up with the demand for skilled people (MERSETA, 2004:42).

The extent of the shortage of skills is further highlighted by the fact that 90.4% of the respondents (refer Table 5.5B) state that they experience difficulty in filling technical vacancies while 42.9% of the organisations (refer Table 5.6B) agree that they experience

difficulty in filling management vacancies. In addition, 47.6% of the respondents believe that there is a shortage of managers with both technical and management skills compared to 23.8% of the respondents who disagree with this statement (refer Table 5.3B). The literature confirms this finding where the MERSETA (2004:43), concludes that the Manufacturing, Engineering and Related Services Sector has a lack of managers who possess technical and management skills. The possible reasons that managers lack both technical and management skills could be that technical people are promoted into management roles and are not provided with the necessary management training and coaching to carry out management roles. Furthermore, as there is a shortage of people with management and technical skills, organisations could be promoting people with technical skills into management roles even though they are not well suited to such roles.

There is great shortage of qualified and experienced Africans, Coloureds and Indians with technical and management skills. The results indicate that 97.7% of the respondents agree with this statement (refer to Table 5.4B). The literature also attests to the finding that there is a scarcity of qualified and experienced black candidates (MERSETA, 2004:32). The main factors influencing this shortage are the poor education and training legacies inherited from apartheid (Horwitz *et al*, 2002:1105).

Skills shortages are further exacerbated by the fact that organisations within the Manufacturing, Engineering and Related Services Sector battle to attract and retain young, highly skilled people. The research indicates that 78.6% of the respondents agree with this statement compared to 7.1% who disagree with this statement (Table 5.11B). Young, highly skilled people need to be attracted and retained so that the transfer and succession of skills from the older generation to the younger generation takes place. The main reasons, which present difficulty in attracting and retaining young, highly skilled people, are limited career development opportunities and poor remuneration policies. The literature supports this finding in that the MERSETA (2004:19), agrees that poor remuneration and limited career growth opportunities hamper this sector's ability to attract and retain young, highly skilled people. In addition, the literature also confirms that career development is one of the important aspects pertaining to the retention of talent as it provides employees with the opportunity to control their careers and provides the younger generation with increased career options and job satisfaction, which is what this group of employees considers important. In

line with this, career development also improves the skills level throughout the organisation (Net *et al*, 2001:501).

6.2.1.3. In which occupational categories is there shortage of key skills in the Manufacturing, Engineering and Related Services Sector?

In the engineering fields the biggest skills shortages are in control engineering and metallurgy (refer Table 5.23B). In the technician fields the biggest skills shortages are in the instrumentation and control fields (refer Table 5.24B). The trade skills have the biggest shortages in the millwright, die maker and tool maker fields (refer 5.25B). According to the MERSETA (2004:43), the technical disciplines, which have skills shortages are: engineering, technicians and trades. It is important to note that according to the MERSETA (2004:58) there is a high shortage of mechanical and electrical engineering skills. However, the results indicate that there is a moderate shortage of mechanical and electrical engineering skills. The results and the literature both confirm that technical vacancies are more difficult to fill as they require far deeper skills levels and the supply of such skills is scare compared to the demand. South Africa is coming from a low base with regard to technical skills and these skills take time to develop, such as, the time required to develop a skilled tradesperson is roughly 4years after high school (MERSETA, 2004:9).

6.2.1.4. To what extent will the shortage of key skills hamper growth in the Manufacturing, Engineering and Related Services Sector?

Majority of the respondents (66.7%) agree that skills shortages pose a threat to the growth of their organisations (refer Table 5.8B). In line with this, 71.4% and 95.2% of the respondents respectively believe that skills shortages pose a threat to the competitiveness of their organisations and that skills development improves the profitability of their organisations (refer Tables 5.9B and 5.10B). The literature confirms this finding (MERSETA, 2004:15).

6.2.1.5. What is the extent of skills development within the Manufacturing, Engineering and Related Services Sector?

The extent of skills development within this sector is indicated by 95.2% of the organisations agreeing that implementing a Workplace Skills Plan is key to accelerating Skills Development

(refer Table 5.17B). This result is pleasing as it shows that organisations are carrying out training and they are serious and committed to training and development.

The extent of skills development is also indicated by the fact that 71.4% and 68.3% of the respondents respectively agree that the skills development policies and legislation provide effective guidelines for their organisations to carry out training (Table 5.20B and Table 5.21B). These results are encouraging as they are an indication that organisations are familiar with the skills development policies and legislation, and that they are applying these guidelines to carry out skills development activities within their organisations. The literature confirms that the Department of Labour (2005:3), outlines the national skills development objectives, which are aimed at guiding the skills development within organisations. The purpose of the Skills Development Act is to provide guidelines for organisations to develop the skills of employees (Nel *et al*, 2001:455).

The results show that 100% of the respondents agree that career development is critical for skills development (refer Table 5.18B) and 92.9% agree that performance management processes improve the skills levels of employees (refer Table 5.19B).
According to the literature career development is also considered important to skills development and retention as through this process employees are able to develop career strategies, improve their skills levels and find job satisfaction (Nel *et al*, 2001:501). In addition career development tends to reduce staff turnover as employees experiences less frustration and greater job satisfaction.

The literature agrees that performance management systems encourage the retention and development of employees in that employees feel rewarded for their work, receive feedback on their performance and know the direction of their careers (Teke, 2002:11). In addition, performance management focuses on ongoing improvement and individual development (Desimone *et al*, 2002:366).

However, contrary to the above discussed results it is also acknowledged by 50% of the respondents that the rate of skills development within this sector is inadequate compared to the high demand for skilled people. This finding is confirmed by the literature as the MERSETA (2004:42), states that the rate of skills development within this sector is inadequate. This could mean that though organisations are working on skills development,

the level of skills development activity is inadequate to deal with the high demand for skilled people.

6.2.1.6. What factors influence the rate of skills development within the Manufacturing, Engineering and Related Services Sector?

The average number of employees in the different organisations is 569.5 (refer Figure 5.2A) and the average number of training specialist employed per organisation is 1.2 (refer Table 5.5A). According to a report by the American Society for Training in 2005, the benchmark ratio for the number of employees per training staff is 216:1. According to this benchmark, it can be seen that organisations in the Manufacturing and Related Services have too few training specialists per employee and hence this could also affect the rate of skills development. On average 247.1 employees received off the job training since January 2004 (refer Figure 5.8A). This is less than 50% of the average workforce. Training less than 50% of the average workforce shows that the rate of skills development activity within this sector is slow as the target should be train 100% of the workforce.

Approximately 70% of the organisations have training committees (refer Table 5.3A) while 61% of the organisations do not have training and development departments (refer Table 5.4A). As mentioned under question 6.2.1.1, the fact that many organisations do not have departments solely dedicated to training and development could be a factor that hampers that rate of skills development. As discussed in question 6.2.1.1, though only 29.3% (refer Table 5.3A) of the organisations do not have training committees, this could have some negative impact on the rate of skills development. According to the MERSETA (2005), companies who employ 50 people or more are required to have a Skills Development Committee / Training Committee in place for consultation purposes. Consultation on the implementation of the Workplace Skills Plan and the process involved in developing the Annual Training Report should take place through these forums. The fact that there are still organisations that do not have such committees in place could mean that either consultation is not taking place or an inferior level of consultation is taking place within these organisations. It is therefore obvious that this impacts negatively on the rate of skills development.

Majority of the respondents (70.7%) indicate that they have a separate budget for training and development (refer Table 5.6A). However, the highest percentages of approximate costs as a

percentage of employment costs are around 1% to 2% (refer Table 5.7A). The latest benchmark figures on training spend in developing countries, put out by the American Society for Training in 2003, reflect that these countries spend an average of 5.9% of employment costs on training. According to a report put out by the American Society for Training in 2005, the training spend benchmark for the United States is an average of 2.2% of employment costs and the benchmark for best organisations is 3.2%. Against the benchmark for developing countries, the Manufacturing, Engineering and Related Services Sector is lagging far behind. The literature also puts forward that in order to promote skills development, organisations need to spend at least 3% of employment costs over and above the 1% skills development levy on training (Folscher, 2005:18). The spend on training and development within this sector is not adequate and hence impacts negatively on the rate of skills development within this sector. The literature confirms that one of the most crucial factor hampering skills development in the Manufacturing, Engineering and Related Services Sector is a lack of capital (MERSETA, 2004:42).

Another factor seen as posing a threat to the sustainability of skills development is HIV / AIDS. The results show that 50% of the respondents agree that HIV/AIDS poses a threat to the sustainability of skills development compared to 28.6% who are neutral and 21.4% who disagree with this statement (refer Table 5.7B). According to the MERSETA (2004:43), HIV/AIDS posses a threat to the sustainability of skills development as organisations are reluctant to employ new people and invest in training them. The MERSETA reports that the most significant losses of labour due to HIV / AIDS will be in the period 2010 to 2015 and will mostly be amongst the people in their mid-thirties (MERSETA, 2004:26). Hence there will be a skills gap amongst this young group of people and the transfer of skills from older people to this group of people will be compromised. This impacts significantly on the rate of skills development.

Skills transfer is considered as a factor that is important to skills development by 92.8% of the respondents (refer Table 5.15B). The MERSETA (2004:15), acknowledges that skills transfer from older employees to younger employees is imperative to ensure the sustainability of skills for the future. Though many of the respondents acknowledge the importance of skills transfer, it appears that the rate of skills transfer is not happening fast enough and is hence impacting negatively on the rate of skills development within this sector. Skills transfer from

older people to younger people is also hampered by the fact that the sector battles to attract and retain young, skilled people.

6.2.1.7. What effects will the retirement of skilled workers have on Manufacturing, Engineering and Related Services Sector?

Majority of the respondents (92.8%) agree that skills transfer from older employees is important in ensuring the sustainability of skills for the future (refer Table 5.15B). According to the MERSETA (2004:15), a large part of the sector's workforce will retire in a few years time and the transfer of skills from older employees to younger employees is vital so as to ensure continuity of skills (MERSETA, 2004:15).

In light of the abovementioned point it is important to note that skills transfer is important but the retention of these skills is just as equally important. This is confirmed by 69% of the respondents who agree that skills development is an integral part of their organisations' skills retention strategy (refer Table 5.12B) and 59.5% who agree that coaching is important to skills retention (refer Table 5.13B). According to the literature, organisations that were successful in retaining talent focussed on skills development and coaching (Leonard, 1998:22).

The literature also considers mentorship as an important aspect of skills development and retention (McBain, 1998:24). According to the research 42.8% of the respondents agreed that mentorship was important to skills retention, 54.8% were neutral and 2.4% disagreed (refer Table 5.13B). This result is not consistent with the literature, which considers mentorship as one of the key interventions that facilitates skills development and retention (Fenwick, 2001:32). The possible reasons why many organisations were neutral on the issue of mentorship could be that many of the organisations were not exposed to mentorship or did not have such programmes in place within their organisations.

6.2.1.8. What are the reasons behind young, highly skilled people being highly mobile within Manufacturing, Engineering and Related Services Sector?

As limited career development opportunities and poor remuneration polices and practices are lacking in this sector, young, highly skilled people become mobile as they move from one

employer to the other in search of better opportunities. This high degree of mobility leads to a scarcity of skills amongst this group of people and this group is then able to demand higher salaries for their scarce skills. This therefore further compounds the issue of mobility and further compromises the sector's ability to attract and retain this group of people, thereby further compounding the skills shortages experienced in this sector.

Another possible reason behind the high degree of mobility of young people in this sector is that this sector suffers from a poor image in that it is perceived as a low technology and low skills industry (MERSETA, 2004:9). This affects the sector's ability to attract and retain young, highly skilled people who want to pursue careers in organisations that have world-class technology and have many opportunities for skills development and career growth.

6.2.1.9. What are the reasons the Manufacturing, Engineering and Related Services Sector finds difficulty in attracting and retaining young highly skilled people?

Limited career development opportunities and poor remuneration polices and practices present the biggest difficulty for organisations to attract and retain young, highly skilled people. According to MERSETA, (2004:19), poor remuneration and limited career development opportunities present difficulty for the Manufacturing, Engineering and Related Services Sector to attract and retain young, highly skilled people.

6.2.1.10. What do respondents feel organisations can do to minimise the shortage of key skills and improve skills development so as to ensure a sustainable skills base for the future?

The top 5 strategies that respondents believe could lead to improved skills development and ensure a sustainable base for the future are:

- On-the-job training
- Fast track employment equity candidates
- Providing access to specific/tailor made training
- Coaching and mentoring
- Forming partnerships with tertiary institutions to educate and train candidates within required technical disciplines

6.2.2. **HYPOTHESES**

6.2.2.1. There is a shortage of skills in the Manufacturing, Engineering and Related Services Sector.

The testing of this hypothesis indicated that there is a shortage of skills within the Manufacturing, Engineering and Related Services Sector. This result is consistent with the findings discussed above in which 50% of the respondents agree that the rate of skills development is inadequate compared to the high demand for skilled people and 59.5% of the respondents agree that their organisations are facing skills shortages. The literature confirms that the Manufacturing, Engineering and Related Services Sector is currently facing a skills shortage and that the rate of skills development in this sector is slow compared to the high demand of skilled people required (MERSETA, 2004:42). Most of the respondents (90.4%) agree that their organisations battle to fill technical vacancies, which supports the fact there is a shortage of technically qualified people in this sector. The MERSETA confirms that the greatest shortage of skills lies within the technical disciplines (MERSETA, 2004:58). According to the results 97.7% of the respondents agree that there is a shortage of Africans, Coloureds and Indians with technical and management skills. The MERSETA (2004:32), also confirms that there is a shortage of qualified and experienced black candidates.

It is, however, noted that one of the questions (question 4B), used to test this hypothesis did not conclude that there is a shortage of skills within the Manufacturing, Engineering and Related Services Sector. Question 4B states, "there is a shortage of qualified and experienced Africans, Coloureds and Indians with technical and management skills." This question relates to the hypothesis 1, which is concerned with a shortage of skills in the Manufacturing, Engineering and Related Services Sector. This is further supported by the above-mentioned research results which indicated that 97.7% of the respondents agreed with this statement. The literature also confirms that there is a shortage of blacks with management and technical skills (MERSETA, 2004:32).

Given the above discussion it is not clear why question 4B does not assist in concluding hypothesis 1. This is therefore considered an anomaly in the findings. As mentioned under section 5.9, Hypothesis Test 1, it could be an indication that question 4B should not have been

used to test this hypothesis. It was also mentioned that this would require further research, however, as it was not the purpose of this research it was not be included in this research.

6.2.2.2. The shortage of skills in the Manufacturing, Engineering and Related Services Sector could hamper growth in certain parts of the sector.

The testing of this hypothesis showed that the shortage of skills in this sector could hamper growth in certain parts of this sector. This result is consistent with the findings discussed above where 66.7% of the respondents agree that the shortage of skills in this sector poses a threat to the growth of this sector. In addition to this, the majority of the respondents agree that skills development is important to the competitiveness and profitability of their organisations. The literature also confirms that skills development needs to be accelerated in order for companies within this sector to be globally competitive (MERESTA, 2004:15).

6.2.2.3. There is a slow rate of skills development in the Manufacturing, Engineering and Related Services Sector.

The results of this hypothesis test indicated that the rate of skills development within this sector is slow. This is confirmed by the above results where 50% of the respondents agree that the rate of skills development in the Manufacturing, Engineering and Related Services Sector is inadequate compared to the high demand for skilled people. The slow rate of skills development in this sector is further highlighted by the results, which show that 90.4% of the respondents agree that their organisations experience difficulty in filling technical vacancies. This means that the rate of skills development within technical disciplines in this sector is slow compared to the high demand for such skills. According to the results 97.7% of the respondents agree that there is a shortage of suitably qualified and experienced blacks, which indicates that the rate of skills development among blacks is slow. The literature also indicates that a large portion of this sector's skilled workforce will retire in a few years time, therefore skills transfer from older employees to younger employees is imperative (MERSETA, 2004:15). However, the Manufacturing, Engineering and Related Services Sector battles to attract and retain young, highly skilled people. This results in the rate of skills development being slowed down, as there are few young people within this sector to whom skills cane be transferred.

6.2.2.4. A large portion of this sector's skilled workforce will retire in a few years time and the skills they possess will be difficult to replace.

The results of this hypothesis test confirmed that skilled people within the Manufacturing, Engineering and Related Services Sector will retire in a few years time and that the skills they possess will be difficult to replace. It is therefore imperative that the skills and knowledge they posses be transferred to the younger generation so as to ensure a sustainable skills base for the future. It can be seen from the above discussion that 92.8% of the respondents agree to this statement. In line with ensuring the transfer of skills from older employees to younger employees, most respondents recognise that coaching and mentorship are key interventions to be used in this process. This is consistent with the literature which recognises coaching as a key strategy used in training and development to improve employee performance (Zweibel, 2005:62). In addition to this, mentorship is recognised as a key intervention in skills development aimed at improving skills and knowledge and promoting skills transfer (Fenwick, 2001:32).

6.2.2.5. Young, highly skilled people are highly mobile within the Manufacturing, Engineering and Related Services Sector.

The testing of this hypothesis indicated that young, highly skilled people within this sector are highly mobile. This high degree of mobility leads to organisations experiencing difficulty in attracting and retaining, young highly skilled people. This is consistent with the results discussed above where 78.6% of the respondents agree that attracting and retaining young, highly skilled people is difficult. The literature also confirms that there is a high degree of mobility among young, highly skilled employees in the Manufacturing, Engineering and Related Services Sector (MERSETA, 2004:19).

It is, however, noted that one of the questions (question 11B) used to test this hypothesis did not conclude that young, highly, skilled people are highly mobile within the Manufacturing, Engineering and Related Services Sector. Question 11B states, "our organisation experiences difficulty in attracting and retaining young, highly skilled people." This question relates to young, highly skilled people being highly mobile in this sector. The results also confirm that 78.6% of the respondents agreed that organisations in this sector experience difficulty in

attracting and retaining young, highly skilled people. The literature also supports this finding (MERSETA, 2004:19).

Given the above discussion it is not clear why question 11B does not assist in concluding hypothesis 5. This is therefore considered an anomaly in the findings. As mentioned under section 5.9, Hypothesis Test 5, it could be an indication that question 11B should not have been used to test this hypothesis. It was also mentioned that this would require further research, however, as it was not the purpose of this research it was not be included in this research.

6.2.2.6. The Manufacturing, Engineering and Related Services Sector finds difficulty in attracting young, highly skilled people.

The results of this hypothesis test indicated that the Manufacturing, Engineering and Related Services Sector finds difficulty in attracting young, highly skilled people. The results of the study show that 78.6% of the respondents agree that organisations in this sector experience difficulty in attracting and retaining young, highly skilled people. According to the literature this sector is perceived as a low technology and low skills industry and this could be a factor which impacts negatively on this sector's ability to attract and retain young, highly skilled people (MERSETA, 2004:9). Other factors that impact negatively on the sector's ability to attract young, highly skilled people include: limited career development opportunities, a lack of training and development opportunities and poor remuneration policies and practices. According to the literature these factors play a major role in impeding this sector's ability to attract young, highly skilled people (MERSETA, 2004:19).

It is, however, noted that one of the questions (question 25.4B) used to test this hypothesis did not conclude that the Manufacturing, Engineering and Related Services Sector finds difficulty in attracting young, highly skilled people. Question 25.4B referred to any other factors that respondents felt presented difficulty for organisations to attract and retain young, highly skilled people. As mentioned under section 5.9, Hypothesis Test 6, it could be an indication that question 25.4B should not have been used to test this hypothesis. It was also mentioned that this would require further research, however, as it was not the purpose of this research it was not be included in this research.

6.2.2.7. The Manufacturing, Engineering and Related Services Sector find difficulty in retaining young, highly skilled people

The results of this hypothesis test show that organisations within this sector battle to retain young, highly skilled people as this group of people within this sector is highly mobile (as discussed under 6.2.2.5). The reason for this could be that organisations within this sector do not have strategies in place, which focus on developing and retaining this group of people. The result of this hypothesis test is consistent with the results discussed in 6.2.2.5, which states that young, highly skilled people are highly mobile in this sector. It therefore follows that if this group of people is highly mobile then organisations will battle to retain this group of people.

This finding is consistent with the literature, which states that the Manufacturing, Engineering and Related Services Sector battles to retain young, highly skilled people (MERSETA, 2004:19). As mentioned above this result is confirmed by 78.6% of the respondents who agree that organisations in this sector experience difficulty in attracting and retaining young, highly skilled people.

It is, however, noted that one of the questions (question 11B) used to test this hypothesis did not conclude that the Manufacturing, Engineering and Related Services Sector finds difficulty in retaining young, highly skilled people. Question 11B states, "our organisation experiences difficulty in attracting and retaining young, highly skilled people." This question relates to organisations experiencing difficulty in retaining young, highly skilled people. The results also confirm that 78.6% of the respondents agreed that organisations in this sector experience difficulty in attracting and retaining young, highly skilled people. The literature also supports this finding (MERSETA, 2004:19).

Given the above discussion it is not clear why question 11B does not assist in concluding hypothesis 7. This is therefore considered an anomaly in the findings. As mentioned under section 5.9, Hypothesis Test 7, it could be an indiction that question 11B should not have been used to test this hypothesis. It was also mentioned that this would require further research, however, as it was not the purpose of this research it was not be included in this research.

6.2.3. CORRELATION ANALYSIS

The correlation between question 1B and 5B (r = 0.53, signif. 0.05) shows a moderately strong relationship. This moderately strong relationship exists between the rate of skills development within organisations being inadequate compared to the high demand for skilled people and organisations experiencing difficulty in filling technical vacancies. This means that the inadequate rate of skills development within organisations in this sector has a direct bearing on the organisations' ability to fill technical vacancies. The inadequate rate of skills development within organisations contributes to the scarcity of skills and impacts negatively on the availability of suitably technically qualified people.

There is a moderately strong relationship between questions 2B, 7B and 8B (r = 0.56 and 0.57, signif. 0.05). This means that there is a moderately strong view that HIV and AIDS poses a threat to skills development and in turn could be a factor contributing to the skills shortage in this sector. It is also recognised that the shortage of skills poses a threat to the growth of organisations within this sector. The result of this correlation shows that HIV and AIDS is definitely considered as a factor that impacts negatively on the rate of skills development and contributes to organisations facing skills shortages. It can also be seen that skills shortages pose a threat to the growth of organisations within this sector.

The correlation between questions 3B and 6B (r = 0.74, signif. 0.01) indicates a very strong relationship between a shortage of managers who are competent in both technical and people management skills and organisations' experiencing difficulty in filling management vacancies. From this it can be seen that there is a shortage of people with management skills within this sector and this impact very negatively on the organisations' ability to fill management vacancies.

There is a moderately strong relationship between the shortage of qualified and experienced Africans, Coloureds and Indians with technical and management skills and organisations' experiencing difficulty in filling technical vacancies (questions 4B and 5B) (r = 0.56, signif. 0.05). From this it can be inferred that organisations are not doing enough to develop Africans, Coloureds and Indians with technical and management skills compared to the high demand for such people. This lack of skills development amongst Africans, Coloured and Indians results in a lack of suitably qualified Blacks, hence companies have no pool from

which to recruit and as a result experience difficulty in sourcing technically qualified and experienced Blacks.

The correlation between questions 5B and 8B (r = 0.58, signif. 0.05) indicates a moderately strong relationship between organisations experiencing difficulty in filling technical vacancies and the shortage of skills posing a threat to the growth of organisations within this sector. It follows that if there are too few skilled people compared to the high demand for skilled people, organisations will experience difficulty in sourcing candidates to fill these vacancies. Ultimately this shortage of skills will pose a threat to the organisations' ability to grow as skills development is considered a very important factor for the success and growth of the Manufacturing, Engineering and Related Services Sector.

There is a very strong relationship between question 8B and 9B (r = 0.72, signif. 0.01). This means that the skills shortages within this sector pose a serious threat to the growth and competitiveness of the organisations within this sector.

There is a moderately strong relationship between questions 12B, 13B and 14B (r = 0.67 and 0.56, signif. 0.01 and 0.05). This means that organisations believe skills development is an important aspect of skills retention and coaching and mentorship are considered important interventions in this regard.

The correlation between questions 13B and 14B (r = 0.80, signif. 0.01) shows a very strong relationship. From this correlation it can also be seen that coaching and mentorship are two interventions that go hand in hand in accelerating skills development and retention.

There is a very strong relationship between question 20B and 21B (r = 0.85, signif. 0.01). This correlation shows that the majority of the respondents believe that the skills development policies and legislation work well together to provide effective guidelines for organisations to carry out skills development activities.

6.3. CONCLUSIONS

6.3.1. Based on the results of the field study it can be concluded that there is a definite shortage of skills within the Manufacturing, Engineering and Related Services Sector. The

skills shortage is considered serious as more than 50% of the respondents agree that their organisations are facing a skills shortage. The rate of skills development within many organisations in this sector is inadequate compared to the high demand for skilled people within this sector. Therefore it can be seen that the current skills base is not keeping up to the pace of the technological developments within the industry.

6.3.2 The greatest shortage of skills is within the technical disciplines as most organisations agree that they experience difficulty in filling technical vacancies as there is no pool of suitably qualified candidates to draw from. Some of the many reasons for this lack of technically qualified people could be that training and education within organisations and tertiary institutions is not focussed on the right skills. In addition organisation are not training people in technical skills fast enough to cope with the required demand.

6.3.3. There is also a shortage of managers with the combination of management and technical skills. This management skills gap could have resulted from a tradition of promoting technical people into management positions without the proper support and training in place. There also seems to be greater emphasis on production issues and not enough time spent on developing skills to manage people.

6.3.4. From the results it can be inferred that organisations within this sector are battling to address employment equity issues. This is evident from the results indicating a high shortage of suitably qualified and experienced Blacks. This shows that organisations have not been proactive enough in fast tracking Blacks into management and technical positions in order to deal with the high demand for suitably qualified and experienced Blacks.

6.3.5. There is a big skills gap in this sector and this gap is not being closed fast enough by organisations within this sector. This is shown by the slow rate of skills development within this sector and the fact that organisations are battling to source appropriately qualified and experienced people. This skills gap needs to be closed so that organisations within this sector can be competitive.

6.3.6 It is recognised that skills development within this sector needs to be accelerated in order for this sector to be globally competitive. A shortage of skills in this sector could discourage potential investors from making investments into growth projects in this sector.

The lack of this kind of investment could hamper growth in this sector and result in the sector becoming uncompetitive.

6.3.7 Organisations are not fully dedicated to training issues. Majority of the organisations within this sector are small organisations and for these organisations the pressure is on day-to-day production issues rather than long-term training and development issues. For many of these organisations training is still being viewed as a cost and not an investment. This is illustrated by the fact that most organisations are training less than 50% of their workforce when the target should be to train 100% of the workforce. There needs to be a shift in this mindset and training needs to become a priority issue in many of these organisations.

6.3.8. Though the results show that many respondents agree that management places a high importance on training, a lack of management support to training and development is one of the key issues that hampers training within this sector. This is an indication that though the management within organisations know that training is important, there is a lack of commitment to the execution of training.

6.3.9. Organisations are not managing the training process properly and the training systems, policies and procedures are inadequate to support the efficient execution of training and development. This is shown by the fact that there are organisations within this sector that do not have departments dedicated to dealing with training and development issues. Also there are organisations in this sector that do not have training and development committees where consultation takes place on training and development issues. The fact that there are organisations within this sector that do not have training and development committees in place means that there are certain organisations that are not complying with the standard requirements of this sector. According to the MERSETA, companies who employ 50 people or more are required to have a Skills Development Committee / Training Committee in place for consultation purposes. It is concerning that there are certain organisations within this sector that fail to comply with the standards set by the MERSETA and as a result there is no consultation taking place on training issues or consultation is not being carried out in an effective way.

This lack of structures and systems dedicated to dealing with training and development issues highlights the lack of management commitment to the execution of training and this has a

negative impact on the effective management and execution of training and development. In relation to this, it is important to note that ineffective training and development practices and procedures were among the factors that were identified as hampering skills development within this sector.

6.3.10. Training budgets are too small and cannot meet the skills demands within this sector. The training spend within organisations in this sector is around 1% and 2% which is far below the benchmark for developing countries, which is around 5.9%. Though many organisations do have separate budgets for training, companies are clearly not spending enough money on training to cope with the skills shortages within this sector. The research results also indicate that a lack of capital to conduct training is one of the key factors that hamper training and development within this sector.

Organisations need to make huge injections into their training budgets in order to meet the skills demands within this sector. In addition, organisations within this sector do not have training budgets dedicated to the development of Blacks. Given the fact that this sector is experiencing such a scarcity of suitably qualified and experienced Blacks it would be important for organisations to have budgets focussed on the training and development of Blacks. This is in line with the research results where organisations named the fast tracking of employment equity candidates as one of the top strategies that could lead to improved skills development within this sector.

6.3.11. The transfer of training is not happening at a fast enough rate within this sector. The poor transfer of training could result in organisations within this sector losing knowledge and skills as people retire and the skills they posses not being transferred at a fast enough rate to the younger employees. The loss of knowledge and skills could have a detrimental effect on the competitiveness of this sector. The slow rate of transfer of skills to young people is compounded by the fact that organisations within this sector battle to attract and retain young, highly skilled people into this sector.

Though 92.8% of the respondents agree that skills transfer is imperative to ensuring a sustainable skills base for the future, the question to be addressed is, "why is the rate of skills transfer still not happening at a fast enough rate to cope with the skills demands?" One of the possible reasons could be that organisations do not have adequate training and development

structures and systems to deal with the transfer of training from older employees to younger employees. It is important to note that the lack of transfer of training has been rated as the biggest factor that hampers skills development within this sector.

6.3.12. Organisations within this sector have too few training specialists per employee. The results indicate that there are 1.2 training specialists per 569.5 employees compared to the benchmark of 1 training specialist per 216 employees. It is important to note a lack of qualified trainers was rated the least critical factor that hampers skills development in this sector, however, in relation to the benchmark of training specialists per employee, this sector is lagging far behind. This could be an indication of a lack of management commitment to training and could be one of the factors that is contributing to the slow rate of skills development within this sector.

6.3.13. It is concerning to note that there are organisations who believe that the skills development legislation and policies do not provide adequate guidelines for organisations to carry out skills development activities. The possible reason for this could be that organisations feel the legislation and policies are too cumbersome and as a result they are not able to apply these guidelines practically to training and development within their organisations. It is of even greater concern to note that there are organisations that are neutral as to whether skills development legislation and policies provide adequate guidelines for organisations to carry out skills development activities. This is an indication that organisations are not interested in understanding the national issues pertaining to skills development and how these impact on skills development issues within their respective organisations. This could be an indication that these organisations are not applying the legislation and training policies within their organisations and this could be impacting negatively on skills development within this sector.

6.3.14. This sector has not paid sufficient attention to attracting highly talented people into the sector. The sector has an image of being a low skills and low technology industry. There is no evidence to show that this sector has put strategies in place to raise its image in the market place and position itself as an employer of choice. In addition this sector does not have adequate recruitment drives in place to employ highly skilled people into this sector. It is important that organisations within this sector recruit young, highly skilled people so that

they have sufficient capacity to meet the challenges of global competition, given the fact that this sector has an ageing skilled workforce.

6.3.15. This sector has not been proactive in putting strategies in place to retain young, highly skilled people. It is noted from the results that young, highly skilled people are highly mobile within this sector as they move from one employer to the other in search of better opportunities. This sector battles to retain young, highly skilled people as career development opportunities and good remuneration policies are lacking in this sector. This sector has not been quick enough in responding to these issues and putting retention measures in place to deal with these issues. The fact that this sector has an ageing workforce and is battling to retain young, highly skilled could be pose a serious threat to the availability of skills with this sector and subsequently impact on the growth and competitiveness of this sector. It is therefore imperative that organisations within this sector pay deliberate attention to the retention of skills.

6.3.16 It is disturbing to note that 28.6% of the respondents are neutral concerning the impact of HIV/AIDS on skills development. This shows that these organisations have not conducted any research on the effect of HIV/AIDS within their organisations. It also shows that these organisations do not have any plans and strategies in place and are not adequately prepared to deal with the impact of HIV/AIDS. According to the MERSETA (2004:26), organisations need to prepare for 2010 to 2015 when it is anticipated that organisations will experience their biggest labour losses. From the above discussion it is apparent that there are organisations within this sector that have not been exposed to this information and are not ready to deal with the impact of HIV/AIDS on skills development.

6.3.17. Organisations in this sector recognise that there are skills shortages within the sector and realise that skills development needs to be accelerated in order for this sector to achieve growth, competitiveness and profitability. In line with this, many organisations (64.3%) agree that training is of a high level of importance within their respective organisations. This indicates that respondents realise the importance of training in dealing with the skills shortages within the Manufacturing, Engineering and Related Services Sector.

In conclusion, the Manufacturing, Engineering and Related Services Sector needs to accelerate skills development initiatives and focus on building capacity so as to overcome the

skills shortages experienced in this sector. The following chapter will put forward certain recommendations, which are aimed at on improving skills development within this sector.

CHAPTER 7

RECOMMENDATIONS

7.1 INTRODUCTION

The purpose of this chapter is to present the recommendations based on the conclusions drawn from the study.

With regard to the findings of this study, the following recommendations focus on the role organisations within the Manufacturing, Engineering and Related Services Sector can play in order to address the skills shortages and improve skills development so as to ensure an ongoing availability of key skills for the future. It is realised that skills development is a process, which takes time to show results but the aim is to create fertile ground so as to facilitate and accelerate the skill development within this sector.

7.2 RECOMMENDATIONS

7.2.1. At a national level, it is recommended that the Manufacturing, Engineering and Related Services Sector Authority (MERSETA) follow a focused approach by lobbying the government to sponsor training for specific technical skills that are lacking within this sector. This could be in the form of government sponsored specific / tailor-made training programmes and bursaries to study specific technical courses.

7.2.2. The government could also provide access and sponsorship to certain technical training programmes with international training partners. These training programmes would be specifically focussed on the skills, which are in short supply within this sector. These programmes could involve employees within the Manufacturing, Engineering and Related Services Sector being trained abroad as well as international training experts coming to South Africa to train people in this sector.

7.2.3. Another recommendation that could involve a partnership with the government could be to import certain skills, which are lacking within this sector. It is envisaged that the MERSETA could identify certain countries that have a high supply of skills that are scarce

within this sector. People from these countries could spend a limited period of time in South Africa training and imparting skills to the employees within the Manufacturing, Engineering and Related Services Sector.

7.2.4. The MERSETA could enter into training agreements with employer associations, such as the Steel, and Engineering Industries Federation of South Africa (SEIFSA) and the Aluminium Federation of South Africa (AFSA). These training agreements could entail using the expertise available within these associations to provide tailor-made training for skills that are in short supply.

7.2.5. The MERSETA could form a partnership with the Education Department and influence the Education Department to review the high school curriculum to include specific vocational training geared towards the skills that are in short supply. For example, the training could focus on trades that are in short supply. It takes approximately four years to complete a trade apprenticeship. Through this route, schools could offer part of the apprenticeship training at high school level, thereby reducing the time taken to complete the apprenticeship training. The time taken to develop skilled trades people has been highlighted as a factor hampering skills development in this sector. Through this route it is envisaged that the time taken to develop skilled trades people will be significantly reduced thereby improving the rate of skills development within the sector.

7.2.6. The MERSETA could also influence the curriculum at universities, Universities of Technology and Further Education and Training (FET) colleges. This influence could take the form of the MERSETA encouraging these institutions to develop and introduce courses that are aimed at developing certain technical skills that are in short supply within this sector. To this end, the MERSETA could go as far as sponsoring a particular school e.g., providing sponsorship to the school of metallurgy at a particular university.

7.2.7. Organisations could go to schools and deliver presentations encouraging learners to follow careers within disciplines that have skills shortages. Through these programmes, learners can be identified and sponsored to carry out studies in certain disciplines where there are skills shortages. Organisations could also offer bursaries to students who are already pursuing studies in disciplines where there are skills shortages. These programmes will bring about a pool of young, suitably qualified people who could be considered for employment.

7.2.8. Increasing the number of opportunities for experiential learning and learnerships in technical disciplines could also create a pool of young, suitably qualified people and provide an avenue for organisations to assess these people for permanent employment.

7.2.9. In conjunction with certain tertiary institutions, organisations could introduce management development and leadership programmes aimed at equipping technical people with management skills.

7.2.10. The development of Africans, Coloureds and Indians should be accelerated. This could be achieved by implementing training programmes, particularly aimed at the development of key technical skills amongst Blacks. In addition there should be increased bursaries, learnership and opportunities for experiential training offered to Blacks. This will increase the pool of suitably qualified Blacks.

7.2.11. Skills transfer programmes could be set up, which focus on qualified and experienced employees transferring knowledge and skills to younger less experienced employees in a structured and organised manner. In line with this approach, organisations can implement Train the Trainer programmes where experienced and qualified people are trained to train people in the fields in which they have acquired knowledge, experience and skills over the years.

7.2.12. Organisations within the sector should implement HIV/AIDS programmes, which focus on education, awareness and treatment.

7.2.13. The amount of training taking place in the organisations within this sector should be increased. In accordance with this the overall training spend should be increased in line with the benchmarks for developing countries. In addition, training spend on Blacks should be increased in line with the guideline of 3% over and above the 1% skills development levy.

7.2.14. Uplifting the skills of employees should be one of the strategic objectives of these organisations. The aim should be that skills development should become institutionalised and part of the organisation's culture and values.

7.2.15. Organisations within this sector need to step up the implementation and progress of their skills development interventions such as mentorship, coaching, performance management and career development. This could entail ensuring that these interventions are applied consistently throughout the organisation.

7.2.16. In responding to the skills shortages, it is recommended that organisations within this sector embark on a major recruitment drive where efforts are concentrated on recruiting people with skills that are in shortage supply in this sector.

7.2.17. The Manufacturing, Engineering and Related Services Sector should focus on raising its stature in the marketplace by branding itself as an attractive sector to work. This should improve the image of this sector and should assist in attracting young, skilled people into this sector.

CHAPTER 8

LIMITATIONS OF THE STUDY AND RECOMMENDATIONS FOR FURTHER RESEARCH

8.1 INTRODUCTION

The purpose of this chapter is present the limitations of the study and provide recommendations for further research.

8.2. LIMITATIONS OF THE STUDY

The study was conducted over a relatively short period of five months from July to November 2005. Unfortunately this period was a busy time for several organisations within the Manufacturing, Engineering and Related Services Sector. Many of these organisations were busy with preparation and consultation for their skills development reports and plans and employment equity reports and plans. In addition, several of these organisations were also busy with their annual wage negotiations. The Skills Development Facilitators in these organisations were involved in the above-mentioned processes and were unable to complete the questionnaires.

Organisations were assured that the results of the survey would be kept strictly confidential and will be used for research purposes only, however, certain organisations still refused to take part in the survey citing issues of confidentiality.

Certain respondents stated upfront that they were not interested in completing the survey as skills development was a small part of their overall job and they felt they did not have enough knowledge on the topic.

The study was carried out using companies based in Kwa-Zulu Natal as it would easier for the researcher to gain access to these companies due to the proximity of these companies to the researcher. The research, therefore, does not include information from organisation within the Manufacturing, Engineering and Related Services Sector at a national level. The data

collected from the research is Kwa-Zulu Natal may not be representative of the Manufacturing, Engineering and Related Services Sector at a national level.

The number of respondents was small (42 out of 178). This was mainly due to the accessibility of respondents and the fact that internet and e-mail surveys are generally known to have a high non-response rate. The selected population of 178 companies only represents 4% of all the 4427 companies in KZN and the results are limited to the larger companies in this sector.

Anomalies were picked up in the hypothesis tests where certain questions used to test the hypotheses did not assist in providing conclusions to the hypotheses. These contradictory results could not be explained in the findings and as a result could have limited the understanding and applicability of the research results with regard to skills development within the Manufacturing, Engineering and Related Services Sector. These anomalies were not looked at in detail as this was not the part of the study.

8.3 RECOMMENDATIONS FOR FURTHER RESEARCH

From the research there is no indication of how the informal sector related to the Manufacturing, Engineering and Related impacts on skills development within this sector. Future research can look into strategies that can be employed to boost the growth and development of this sector. Research could also look at interventions that will facilitate skills development of these entrepreneurs so that they remain self-employed.

Similar research could be conducted in other industrial sectors that are experiencing skills shortages so that all sectors learn from the research and are able to apply recommended strategies to address skills shortages.

Future research could also focus on skills development within industrial sectors that are leaders in skills development. Through this research, the findings can be compared and this will help all industrial sectors to learn from the research and improve skills development.

Researchers could also conduct research on skills development in other developing countries and compare the findings so as that all industries can learn from this body of knowledge and through this improve skills development.

Given the anomalies picked up in the research results, further research could be conducted into the shortage of blacks with technical and management skills within the Manufacturing, Engineering and Related Services Sector. Further research would also be required into understanding the issues pertaining to young, highly skilled people within this sector. This would include research into the aspects that influence their mobility as well as what is needed to be able to attract and retain this group of people.

REFERENCE LIST

Abrahams, I. (2003). Job or Career: Turning a Job Into a Career. People Dynamics. 21(2), 6-7.

American Society for Training and Development (2003). Training for the Next Economy: An ASTD State of the Industry Report. United Sates of America.

American Society for Training and Development (2005). State of the Industry Report: Annual Review of Trends in Workplace Learning and Performance. United Sates of America.

Arumugam, S. (1997). Career Development and the NQF. People Dynamics. 15(9), 58.

Babb, S. (1999) Quality Assurance for Education and Training Providers, People Dynamics. 17(10), 44-45.

Babb, S. (2000). Aligning the NQF with the Skills Development Act. People Dynamics. 18(1), 32-33.

Babb, S. (2001). Claiming Your Grants: A New Structure. People Dynamics. 19(2), 32-33.

Bee, F. (2000). How to Evaluate Training. People Management. 6(6), 42-43.

Birt, M., Wallis, T. and Winternitz, G. (2004). Talent Retention in a Changing Workplace: An Investigation of variables Important to South African Talent. South African Journal of Business Management. 35(2), 25-31.

Blanchard, P.N. , Thacker, J.W. and Way, S. E. (2000). Training Evaluation: Perspectives and Evidence from Canada. International Journal of Training and Development. 4(4), 295-304.

Blumenthal, I. (2004) Training and Development – The Status Quo. People Dynamics. 22(4), p.8-9.

Brown, J. (2002). Training Needs Assessment: A Must for Developing an Effective Training Programme. Public Personnel Management. 31(4), 569-578.

Buckberry, N. (2005). More than a Vision for Learning. British Journal of Administrative Management. 45, 28-29.

Christensen, L.B. (1997) Experimental Methodology. 7th edition. United States of America: Allyn and Bacon.

Clarke, N. (2002). Job/Work Environment Factors Influencing Training Transfer within a Human Services Agency: Some Indicative Support for Baldwin and Ford's Transfer Climate Construct. International Journal of Training and Development. 6(3), 146-162.

Clawson, J.G. (1996). Mentoring in the Information Age. Leadership and Organisational Development Journal. 17(3), 6-15.

Coakes, S.J. and Steed, L. G., (2003). SPSS: Analysis Without Anguish. Version 11 Windows. Singapore: Kyodo Printing Co

Collins, B. (2004). So How Effective is Your Training. Beverage Industry. 93(1), 52.

Cottringer, W. (2003). Training That Sticks. Supervision. 64(10), 6-8.

Covey, R. (2004). A New Habit for Trainers. Training and Development. 58(12), 14-15.

Department of Labour (1998). The Skills Development Act No.97 of 1998. Pretoria

Department of Labour (2001). Human Resources Development Strategy for South Africa. Pretoria.

Department of Labour (2002). State of Skills in South Africa. Pretoria.

Department of Labour (2004). National Skills Development Strategy: Implementation Report. Pretoria

Department of Labour (2005). National Skills Development Strategy: 1 April 2005 to 31 March 2010. Pretoria

Desimone, R.L. Werner, J.M. Harris, D.M. (2002) Human Resources Development. 3rd edition. United States of America: Harcourt College Publishers.

Dolliver, S.K. (1993). To Train or Not to Train: An Essential Question. Supervision. 54(10), 12-16.

Dyer, C. (1995). Beginning Research in Psychology. A Practical Guide to Research Methods and Statistics. United States of America: Blackwell Publishers Ltd.

Fenton, B. Hands-On: The NQF and Learning. People Dynamics. 14(2), 33-35.

Fenwick, G. (2001). Mentorship: Making Footprints into the Future. HR Future. 1(1), 32-34.

Folscher, E. (2005). BEE Scorecard Explained: Effecting Transformation and Economic Development Together. HR Future. April, 17-18.

Foster, T. (1998) The Unit Standard Forms the Basis of an Integrated HRD System. People Dynamics. 17(6), 48-49.

Goldstein, I.L. (1993) Training in Organisations. 3rd edition. United States of America: Brooks/Cole Publishing Company.

Gumuseli, A.I. and Ergin, B. The Manager's Role in Enhancing the Transfer of Training:

A Turksih Case Study. International Journal of Training and Development. 6(2), 80-97.

Hiltrop, J. (1999). The Quest for the Best: human Resources Practices to Attract and Retain Talent. European Management Journal. 17(4), 422-429.

Horwitz, F.M, Browning, V. Harish, J. and Steenkamp, A.J. (2002) Human Resource Practice and Discrimination in South Africa: Overcoming the Apartheid Legacy. International Journal of Human Resources Management. 13(7), 105 – 1118.

Hunter, C.R. (2002). Managing People in South Africa. 3rd edition. Pietermaritzburg: University of Natal.

Janove, J.W. (2002). Use it or Lose it. HR Magazine. 47(4), 99-104.

Jarvis, J. (2004). Getting the Right Coach. People Management. 10(13), 49.

Jinabhai, D.C. (2005). New Challenges for South African Development and Training – Linkages to Empirical Research. Public Personnel Management. 5(1), 86 – 101.

Joy-Matthew, J., Megginson, D. and Surtees, M. (2004) Human Resources Development. 3rd edition. London, Kogan Page Limited.

Kanin-Lovers, J (2000) Meeting the Challenges of Workforce 2000. *Journal of* Compensation and Benefits. 5(4), 233.

Keightley, L. and Babb, S. (1999) The Skills Development Act and the Skills Development Levies Act. People Dynamics 17(5), 46-47.

Kirkpatrick, D.L. (2004). How To Start an Effective Evaluation of Your Training Programme. Training and Development. 5 8(5), 16-18.

Khoza, K (1999). Barriers to the Transfer of Training. People Dynamics. 17(11), 27-33.

Kubicek, M. (2004). Managers Blame HR for Lack of Learning Time. Training Magazine. November, 5.

Lange, T., Ottens, M. and Taylor, A. (2000). SME's and Barriers to Skills Development: A Scottish Perspective. Journal of European Industrial Training. 24(1), 5-11.

Leonard, B. (1998). Skills Development, Recognition Key to Employee Retention. HR Magazine. 43(8), 22-24.

Mdladlana, M.M.S. (2005). Skills Development is The Key to Economic Development. Available: http://www.labour.gov.za.jsp [2005, 23 May].

Mc Bain, R. (1999) Attracting, Retaining and Motivating Capable People. Manager Update. 11(2), 25-36.

Mc Bain, R. (1998). Human Resources Management. Manager Update. 9(3), 24-32.

McClelland, S. (2001). Training Needs Assessment: An Open-Systems Application. Journal of European Industrial Training. 17 (1), 12-17.

MERSETA. (2004). Draft Sector Skills Plan: 2005-2009. Johannesburg.

MERSETA (2005). Annual Training Report. Available: http://www.merseta.org.za/doc/2005.asp [2005. 23 May].

Munetsi, W. (1999). Coaching. People Dynamics. 17(10), 50.

Nel, P.S. Gerber, P.D. van Dyk, G.D. Haasbroek, G.D. Schultz, H.B. Sono, T. and Werner, A. (2001) Human Resources Management. 5th edition. South Africa: Oxford University Press.

Neuman, W.L. (2000). Social Research Methods. *Quantitative and Qualitative.* 4th edition. United States of America: Allyn & Bacon.

Olsen Jr, J. H. (1998). The Evaluation and Enhancement of Training Transfer. International Journal of Training and Development. 2(1), 61-75.

Patrick, M. (1999). Quality Management System. People Dynamics. 17(16), 47.

Robbins, S.P. (1996). Organisational Behaviour. Concepts, Controversies and Applications. 7th edition. United Sates of America: Prentice Hall.

Rosset, A. (1997). That was a Great Class But.... Training and Development. 51(7), 18-24.

Salas, E. and Cannon-Bowers, J.A. (2001) The Science of Training: A Decade of Progress. Annual Review of Psychology. 52, 471-499.

Schreuder, A.M.G. and Theron, A.L. (1997) Careers: An Organisational Perspective. South Africa: Juta and Company.

Sloman, M. (2004). Evaluation and Evolution. People Management. 10(14), 50.

Spangenberg, H. (1994). Understanding and Implementing Performance Management. South Africa:Juta and Company.

Stefan, S. (2003). Smashing the Low Skills Culture. Management Today. November, 91.

Sorenson, S. (2002). Training for the Long Run. Engineering Systems. 19(6), 32.

Teke, M (2002). Retention Strategies: More Than a Flavour of the Month HR Future. 2(3), 11-12.

Thomson , I. (2004). The Power and the Impact. People Management. 10(8), 15.

Van der Klink, M., Gielsen, E. and Nauta, C. (2001). Supervisory Support as a Major

Condition to Enhance Transfer. International Journal of Training and Development. 5(1), 52-63.

Venter , A. (1998). Making Performance Management Work. People Dynamics. 16(8), 43-46.

War, P.A. and Allan, C. (1999). Predicting Three Levels of Learning Outcomes. Journal of Occupational and Organisational Psychology. 72(3), 351-372.

Wegner, T. (2000). Applied Business Statistics. Methods and Applications. University of Cape Town: Juta & Co, Ltd.

Wingrove, T. (2002). Mentoring Challenges. HR Future. 2(11), 10-12.

Zweibel, B. (2005). A Strategic Coach. Training and Development. 59(4), 62-64.

APPENDIX A

UNIVERSITY OF KWA-ZULU NATAL – PIETERMARITZBURG

Questionnaire to Skills Development Facilitators employed in the Manufacturing, Engineering and Related Services Sector.

INVESTIGATION INTO SKILLS DEVELOPMENT IN THE MANUFACTURING, ENGINEERING & RELATED SERVICES SECTOR

Dear Sir / Madam

I am an MBA student of the University of KwaZulu-Natal engaged in research into skills shortages and skills development in the Manufacturing, Engineering and Related Services Sector. It would be greatly appreciated if you could participate in this project by completing the attached questionnaire, which should not take more than 10 minutes of your time.

Your answers will be kept in strict confidence and will be used for research purposes only.

SECTION A

Please provide answers to the following questions.

1. Please mark with a cross (X) which Manufacturing, Engineering and Related Services sub-sector your organisation belongs to.

Auto Manufacturing		Metal & Engineering		Motor Retail & Components Manufacture		New Tyre Manufacturing		Plastics	

2. Total number of employees in your organisation:.....

3. Do you have a Training Committee? Yes or No.....

4. Does your organisation have a Training and Development Department? Yes / No .....

5. How many training specialists do you employ?.....

6. Do you have a separate budget for training?.....

7. What are your training costs as a % of your employment costs? (Total Wages and Salaries)

.....

8. How many of your employees received off the job training since 1 Jan 2004.....

9. What is the level of importance of training in your organisation according to your management?

Very Low Importance		Low Importance		Average Importance		High Importance		Very High Importance	

SECTION B

Please rate your answers to the following statements by using the scale provided,

For example:

Strongly Agree	**X**	**Agree**		**Neither Agree Nor Disagree**		**Disagree**		**Strongly Disagree**	

1. The rate of skills development within my organisation is inadequate compared to the high demand for skilled people required within my organisation.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

2. My organisation is currently facing a skills shortage.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

3. My organisation has a shortage of managers who are competent in both technical and people management skills.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

4. There is a shortage of qualified and experienced Africans, Coloureds and Indians with technical and management skills.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

5. My organisation experiences difficulty in filling technical vacancies.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

6. My organisation experiences difficulty in filling management vacancies.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

7. The impact of HIV and AIDS poses a threat to the sustainability of skills development, within my organisation.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

8. The shortage of skills within the organisation poses a threat to the growth of our organisation.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

9. The shortage of skills within the organisation poses a threat to the competitiveness of our organisation.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

10. Skills development makes a real contribution to improving the profitability of our organisation.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

11. Our organisation experiences difficulty in attracting and retaining young, highly skilled people.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

12. Skills development is an integral part of our organisation's skills retention strategy.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

13. Coaching is an integral part of our organisation's skills retention strategy.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

14. Mentoring is an integral part of our organisation's skills retention strategy.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

15. Skills transfer from older employees to younger employees is key to ensuring sustainability of skills for the future

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

16. Helping trainees to apply what they have been taught contributes to improved training.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

17. Implementing a Workplace Skills Plan is key to accelerating skills development

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

18. Career development plays an important role in facilitating skills development.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

19. Performance management processes improve the skills levels of employees.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

20. The national skills development policies provide effective guidelines for our organisation to carry out skills development activities.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

21. The national skills development legislation provides effective guidelines for our organisation to carry out skills development activities.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

22. Skills development is essential for achieving employment equity.

Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	

23. Please rate the degree of the shortage of skills in the following job categories by using the following scale provided:1 = Zero Shortage 2 = Low Shortage 3 = Moderate Shortage 4 = High Shortage 5 = Very High Shortage

Engineering	**Rating**	**Technician Skills**	**Rating**	**Trades**	**Rating**
Mechanical		Electrical		Die Makers	
Electrical		Mechanical		Tool Maker	
Industrial		Instrumentation and Control		Welders	
Control				Electricians	
Metallurgical				Fitters	
				Millwrights	

24. Please rate the extent to which the following factors hamper skills development by using the following scale provided: 1 = No Effect 2 = Small Effect 3 = Moderate Effect 4 = High Effect 5 = Very High Effect

Factors Which Hamper Skills Development	**Rating**
1. A lack of capital to conduct training	
2. A lack of management support to training and development	
3. A lack of technically qualified trainers	
4. A lack of support by supervisors to facilitate the transfer of skills to the workplace.	
5.Ineffective training and development practices	
6. Ineffective training and development procedures	
7. Lack of training evaluation	
8. Inadequate training needs assessment	

25. Please rate the extent to which the following factors present difficulty for your organisation to attract and retain young, highly skilled people by using the following scale provided: 1 = Zero Degree of Difficulty 2 = Low degree of difficulty 3 = Moderate Degree of Difficulty 4 = High Degree of Difficulty 5 = Very High Degree of Difficulty

Factors Which Present Difficulty in Attracting and Retaining Young, Highly Skilled People	**Rating**
1. Limited career development opportunities	
2. Lack of training and development opportunities	
3. Poor remuneration policies and practices	
4. Other (Please state)	

26. Please mark with a cross (X) the top 5 strategies that you believe could lead to improved skills development and ensure a sustainable skills base for the future.

1. On-the-job training	
2. Coaching and Mentoring	
3. Career Development	
4. Fast tracking employment equity candidates	
5. Linking into other company training	
6. Bursaries to attract candidates with required technical skills	
7. Forming partnerships with tertiary institutions to educate and train candidates within required technical disciplines such as engineering.	
8. Increase the number of learnerships	
9. Employer associations (such as Steel and Engineering Industries Federation of South Africa - SEIFSA) to provide training.	
10. Providing access to specific / tailor made training	