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Master in Education

Workplace training in small and medium-sized enterprises (SMEs): apprenticeship and learnership training in South African manufacturing SMEs

A research report submitted to the University of the Witwatersrand School of Education: Faculty of Humanities, in partial fulfilment of the requirements for the Master of Education degree by combination of coursework and research.

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Declaration

I declare that this report is my own unaided work submitted to the University of Witwatersrand, Johannesburg for a Master of Education degree. No other university has received this report for any degree or examination.

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Abstract

This report critically examines the views of human resource (HR) managers and training supervisors in selected manufacturing small and medium enterprises (SMEs) and skills development practitioners in the Manufacturing, Engineering, and Related Services Sector Education and Training Authority (MERSETA). The purpose of this report is to identify and examine the barriers to workplace training in the South African manufacturing SMEs. The study is qualitative in nature, comprising a set of interviews with HR managers, training supervisors and skills development practitioners through semi-structured interview schedules. The analysis of the transcribed data is referenced against the international and local (South African) literature on skills development, workplace training (particular apprenticeships), and perceptions by firms of the importance of workplace training to their operations. The findings of the report supported by the available literature indicate that barriers to workplace training in manufacturing SMEs relate to various factors. These factors are lack of funding, students' attitude, trainer and trainee relationships, and students' low mathematics and science grades. Overall, the report identifies two key barriers to workplace training in the manufacturing SMEs: the embedded gender and racial inequality in the apprenticeships system and the information and communication disconnection between SETAs and manufacturing SME employers. The analysis suggests that overcoming these barriers requires effective government policies that support the relationship between the SETAs, employers, and the learners; and address the history of the apprenticeship system and its implications for workplace training in the manufacturing SMEs.

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List of abbreviations

SME: Small and medium-sized enterprises

SETA: Sector Education and Training

1 INTRODUCTION

As the pressures of the flexible and volatile labour market, global competition, and technological change increase (Osterman, Kochan, Locke, & Piore, 2001, p. 44), the labour force is constrained to remain educated and trained due to the increasing demand for skilled labour (Benner, 2002, p. 27). Although there is a global increase in the number of graduates, skills shortage and mismatch continues to negatively affect employment growth (SEDA, 2016, p. 9). Given the reduced economies of scale in many activities because of the elements mentioned above, smaller firms are significantly becoming potential contributors in today's global markets (The Conference Board of Canada, Watt, & Kitagawa, 2009, p. 5).

However, the challenges and constraints facing SMEs are also becoming more and more severe. To sustain and maintain competitive advantage, SMEs constantly need to upgrade their management skills, their capacity to gather information, develop their technology base, and commit to the skills and knowledge investment of their employees. Workplace training involves learning and earning money while you work. Workplace training benefits the organisation in terms of its overall performance and the performance of its employees (The Conference Board of Canada et al., 2009, p. 5).

Accordingly, the South African government is prioritising entrepreneurship and the advancement of SMEs to advance the country's economic growth and eradicate the unemployment growth (Chimucheka, 2013, pp. 785–786; SEDA, 2016, p. 5). The question of SMEs' contribution to economic development and employment creation remains globally contested, but evidence from research studies has shown a positive relationship between workplace training, SMEs growth, and employment creation (Magableh, Kharabsheh, & Al-Zubi, 2011, pp. 104–105; O'Regan, Stainer, & Sims, 2010, p. 9).

In South Africa, SMEs form an estimated 97 per cent of all businesses and generate about 35 per cent of the country's GDP (Nieman & Neuwenhuizen, 2009, p. 9). However, because of the country's apartheid history and the current poor political, social and economic structures the SMEs' contribution to employment and economic growth is low compared to other developing countries (Berry *et al.*, 2002, p. 5; Perks & Smith, 2008, p. 145). Nonetheless,

SMEs remain important for the national economic development and employment creation (Berry *et al.*, 2002, p. 5).

The MERSETA Sector Skills Plan 2016 reported that in the 2016/2017 financial year small and medium companies accounted for 35 per cent employment in the manufacturing sector (MERSETA, 2016, pp. 5–6). Table 1 shows MERSETA companies by size and employment (permanent and temporary jobs) contribution between 2015 and 2016. Since its inception the MERSETA has registered 655 large firms and 3 967 SMEs. Large firms have created an estimated 352,356 jobs and SMEs an estimated 189,572 jobs. While large manufacturing firms have the highest employment contribution in the sector, manufacturing SMEs' role remains important. Therefore, manufacturing SMEs require continuous success and support from the government (Magableh *et al.*, 2011, p. 104).

Table 1. MERSETA companies by size and employment contribution, 2015-2016

COMPANY SIZE	NO. COMPANIES	EMPLOYMENT
Large	655	352356
Medium	1247	110026
Small	2720	79546
Grand Total	4622	541928

Source: *MERSETA Skills Plan 2015-2016*

1.1 Definitions of SMEs

SMEs are non-subsidiary independent firms that employ less than a given number of employees. The definition of SMEs varies across countries because there is no universal definition. The Organisation for Economic Co-operation and Development (OECD) (2005), for example defines SMEs as non-subsidiary, independent firms with a maximum of 250 employees. The United States categorise SMEs to be firms with fewer than 500 employees. Zimbabwe's Small Enterprise Development Cooperation and the Ministry of Small and Medium Enterprise Development defines SMEs as enterprises registered under the Cooperative Companies Act with a maximum of 100 employees (Chinomona, 2013, p. 1884). The South African National Small Business Act (102 of 1996) defines SMEs based on five characteristics, namely: standard industrial sector and sub-sector classification: size of class: equivalent of paid employees; and turnover and asset value excluding fixed property (TBASA, 2017). This study

defines manufacturing SMEs as enterprises with 20 to 200 fulltime employees and a total turnover of 5 million to 51 million.

Table 2 reflects different classifications of manufacturing SMEs in the South African manufacturing sector. Micro-firms have five full-time employees and a total turnover of not more than 0.20 million. Very small firms have twenty full-time employees and a total turnover of not more than 5 million. Small firms have fifty full-time employees and a total turnover of 13 million. Medium firms have two hundred full-time employees and a total turnover of 51 million.

Table 2. The manufacturing SME sector definition

SECTOR OR SUBSECTOR IN ACCORDANCE WITH THE STANDARD INDUSTRIAL CLASSIFICATION	SIZE OF CLASS	THE TOTAL FULLTIME EQUIVALENT OF PAID EMPLOYEES	TOTAL TURNOVER
Manufacturing	Medium	200	R51m
	Small	50	R13m
	Very Small	20	R5m
	Micro	5	R0.20m

Source: *TBASA, 2017*

Table 3 shows the total number of South African small businesses in 2015 (including micro enterprises with less than five employees). By 2015 South Africa possessed 2 251 821 SMMEs (667 433 formal and 1 497 860 informal). The informal sector is a sector with employees and enterprises that are not under government regulation [www.reference.com/business-finance/difference-between-formal-informal-sectors-aab0ae9eb69681af]. The data shows that informal SMMEs dominate the SMME sector. According to Steenkamp & Bhorat (2016), the government should prioritise the informal sector in the light of the benefits associated with SMME growth and their contribution to employment creation, poverty alleviation, and economic growth. They argue that supporting the informal SMME sector should be the key priority for government policy.

Table 3. The total number of South African SMMEs, 2015

KEY INDICATORS	2015
Number of SMMEs	2 251 821
Number of formal SMMEs	667 433
Number of informal SMMEs	1 497 860

Source: *SEDA, 2016*

1.2 Characteristics of SMEs in South Africa

The characteristics of SMEs in South Africa are as follows:

- SMEs contribute to the country's GDP and export performance by manufacturing of goods and services to domestic consumers and foreign enterprises/clients (Berry *et al.*, 2002, p. 4).
- Majority of South African SMEs are situated in rural areas where there are few large corporations (Dzansi, 2004, p. 33).
- South African SMEs are labour intensive and generate employment opportunities, utilise talents, energy, and provide services to restricted markets not found to be attractive to larger enterprises (Cronje, Du Toit, & Motlatla, 2001, p. 492).
- South African SMEs are supported by various government initiatives.

The government initiatives assist SMEs to secure finances primarily through the provision of security on behalf of small businesses to commercial banks, retail financial institutions, specialist funds, and joint ventures. They offer loans to SMEs through partner intermediaries, such as the Khula Enterprise Finance initiative (TBASA, 2017).

1.3 Background and the context of the study

The manufacturing sector

The South African manufacturing industry's performance has declined remarkably since the mid-1970s. As a result, the sector needs a major performance improvement for a sustained recovery of the economy as a whole (Bell, 1995, p. 1). The manufacturing sector is part of the goods-producing industries super-sector group. It comprises establishments engaged in the

mechanical or chemical transformation of materials and components into new products. In 2016 the South African manufacturing sector contributed an estimated 12 per cent to the country's GDP, slightly lower than the 13 per cent from 2015 (Mosai, 2016, p. 6). Nonetheless, the sector continues to offer great potential to job creation and a decent wage for unskilled and semi-skilled workers and remains a productive driver of inclusive economic growth reducing unemployment.

Skills development in the SME sector

The United Kingdom (UK) literature suggests that continuous and intentional human resource development strategy for SME management and workforce is crucial for SME survival (O'Regan *et al.,* 2010, pp. 2–3). Management literature on SMEs, however, gives much focus and importance to management training rather than employee training. Accordingly, Chinomona (2013, p. 1885) finds this to be ironic since ineffective employee training is among the major obstacles for SME growth and development in Zimbabwe. According to Gibb (1997, p. 15), employee training in SMEs should be treated equally important as the learning needs of management. In the UK the most successful SMEs participate in workplace training more than average (O'Regan *et al.,* 2010, p. 4). Literature in various countries indicate that workplace training facilitates SME expansion and enhances profitability, productivity, and competitive advantage (Magableh *et al.,* 2011, pp. 104–105; Chinomona, 2013, p. 1891; IFC, 2015, p. 99). In fact, Chinomona argues that in Zimbabwe "small business owners expertise has more impact on the performance of small businesses via employees' skills training than the direct effects on the same" (2013, p. 1891).

A better-trained workforce creates a highly motivated and people effective work environment that further enhances employment creation and job satisfaction. Empirical evidence from British literature suggests that even when a firm's training expenditure is completely invested in employee training, the firm will still experience significant improvement in it productivity (Ballot, Fakhfakh, & Taymaz, 2006, p. 19; O'Regan *et al.,* 2010, p. 11). In short, workplace training appears to have a positive effect on SME growth, in both a global and national context. Therefore, for long-term business effectiveness in SMEs, employers and the government should take workplace training serious. For the most part, whatever the SMEs domain of expertise, it is only as good as its well-trained workforce (O'Regan *et al.,* 2010, pp. 2–4).

1.4 Problem statement

The IFC report (2015, p. 100) suggests that despite the potential benefits and advantages of workplace training, some SME employers continue to under-invest and reject the idea of participating in workplace training. This research then aims to explore and understand the barriers to workplace training in South African manufacturing SMEs by documenting and critically analysing the views of HR managers and training supervisors in selected manufacturing SMEs and skills development practitioners in the MERSETA. This report explores the reasons why manufacturing SMEs participate in workplace training and how involved they are in workplace training. It explores who they train and why they train them. It explores workplace training constraints and how workplace training affects their employment growth. The researcher hopes to generate new understanding of workplace training and hopefully contribute to existing and future workplace training literature on South African manufacturing SMEs.

1.5 Research question

What are the barriers to workplace training in South African manufacturing SMEs?

Sub-research questions

- How involved are manufacturing SMEs in apprenticeship and learnership training?
- Why do manufacturing SMEs provide apprenticeship and learnership training?
- Who receives training in manufacturing SMEs?
- What are the apprenticeship and learnership training challenges facing manufacturing SMEs?
- What relationship is there between workplace training and employment in manufacturing SMEs?

1.6 Conclusion

This chapter provided an introduction to the context of the study. The SMEs are defined in this research using the South African National Small Business Act (102 of 1996). The South African SMEs have different characteristics and majority of them are informal. The pressures of the flexible and volatile labour markets, global competition and technology change forces

large, medium and small firms to up-skill their workforces to remain globally competitive. Global literature shows that in general, SMEs that invest in workplace training tend to experience high productivity growth and increased profits. A trained workforce creates a highly motivated and people-effective work environment that enhances employment creation and job satisfaction. However, despite these potential benefits of workplace training, the literature suggests that some SME employers continue to under-invest and reject the idea of participating in workplace training. This research aims to explore and understand the barriers to workplace training in South African manufacturing SMEs by documenting and critically analysing the perceptions of HR managers, training supervisors from training manufacturing SMEs and skills development practitioners in the MERSETA.

Chapter Two of this research provides an overview of literature on workplace training. The literatures review covers topics about learning at work, workplace learning outcomes, training costs to company, workplace training and training education institutions, and the interaction between novices and experts in the workplace. It further provides an overview of literature on workplace training and skills shortage in the South African context and the SME workplace training challenges in a global and national context. It also provides a brief historical background of the South African apprenticeship system and an overview of challenges experienced by South African SMEs by mainly focusing on the financial and skills development constraints. This chapter closes with a summary of emerging arguments from the literature.

Chapter Three covers the research approach, research design, data collection, research procedure, data analysis, validity and reliability, ethical considerations, and the limitations of the study. This study uses an interpretive philosophical approach and an exploratory qualitative research design. The data was collected using a purposeful sampling method and a qualitative self-administered interview schedule with semi-structured questions together with a mini-questionnaire with closed questions. Overall, 17 participants were interviewed for the study: 3 HR managers and 6 training supervisors from training manufacturing SMEs; and 8 skills development practitioners in the MERSETA.

Chapter Four outlines the findings of the study. Chapter Five discusses the findings using a qualitative research thematic content analysis approach to pinpoint, examine, and record the patterns of the experiences and perceptions of participants. The data was transcribed using

Microsoft Office: MS Word and MS Excel. The selected themes for the discussion were chosen because of the recurring patterns. Chapter 6 sums up the results of the study and concludes.

2 LITERATURE REVIEW

This chapter provides an overview of literature on workplace training. The literature covers topics about learning at work, workplace learning outcomes, training costs to small enterprises, workplace training and training education institutions, and diverse interactions between novices and experts in the workplace. It further provides an overview of literature on workplace training and skills shortage in the South African context and SME workplace training challenges for SMEs in a global and national context. It provides a brief historical background of the South African apprenticeship system and an overview of challenges experienced by South African SMEs by mainly focusing on the financial and skills development constraints. This chapter closes with a summary of emerging arguments from the literature.

2.1 A general overview of workplace training in organisations - not specific to large, medium, and small firms

2.1.1 Learning at work

Learning is situated in a specific cultural context (Tynjala, 2008, p. 133). Situated learning happens when a learner executes tasks and solves problems in an environment that reveals various intended uses of knowledge (Billett, 1994, p. 112). The growth in interest for situated learning is due to the recognition that the workplace is the appropriate environment for learners to assimilate knowledge that connects theory to practice in a realistic and efficient way (Smith, 2003, p. 53). Learning in the workplace is structured in different levels i.e. learners as individuals, groups, communities, organisations, networks, and regions (Tynjala, 2008, p. 134). People learn at work by:

- Doing the job itself.
- Co-operating and interacting with colleagues and clients.
- Tackling challenging new tasks.
- Reflecting on and evaluating one's work experiences through formal education and extra-work contexts (Tynjala, 2008, p. 134).

The ‘just-in-time’ training method is one of the effective workplace training methods. It happens when training occurs simultaneously with the worker’s regular job activities. Through this type of training, the worker can directly incorporate what they have learned into evolving understanding of work tasks and can later recall and effectively utilise it when needed (Collins *et al.*, 1997, p. 327). Moreover, the rapid and continual working life changes are making lifelong learning and workplace learning a necessity for nations, organisations, and individuals. As a result, workplaces are now much more than environments for generating profit and providing services but are also learning environments (Tynjala, 2008, p. 150).

2.1.2 Workplace training outcomes in organisations

Return on training investment

The return on training investment is the financial benefit of the training divided by the training costs. The significance of calculating the return to training investment is to show the organisation the financial benefits gained from training. Organisations do not always see the benefits of investing in training when they lack the necessary tools and expertise to measure the returns on training investment. Berge (2008, p. 390), argues that firms without the right expertise often use outdated accounting methods or faulty methodologies to calculate their returns to training investment. When employers do not know what important data to measure, and how to collect, analyse, and summarise the data they tend to make it impossible for anyone to rely on their investment results (Bartel, 2000, p. 522). Bartel (2000, p. 523), then suggests that where possible researchers should assist with data-gathering efforts in firms by collecting information on variables needed to isolate the effects of training. By researchers doing so, the firms will be encouraged to perform better on training investment analyses. Bartel (2000, p. 523), further suggests that the state must use its resources to encourage firms to conduct return on training investment analyses of their training programs. If lack of information on return to training investment is a cause for firms to under invest in training, then it becomes inevitable that firms need assistance in measuring the returns on training investments.

Workplace learning outcomes

Workplace learning outcomes are outcomes the student intends to accomplish during his or her workplace learning experience. Workplace learning outcomes may be positive and negative. Negative learning outcomes strengthen existing negative features of the workplace and employee performance. They are classified to be bad practices, disadvantages of the field, and shirking of work duties on the employee's part (Tynjala, 2008, p. 134). Positive learning outcomes, among others, include: the learner's ability to perform tasks; have awareness and understanding of tasks; gain personal development; teamwork skills; play role performance; develop academic knowledge; decision making and problem solving skills (Berge, 2008, p. 391; Tynjala, 2008, p. 134).

Workplaces as learning environments have a wider set of social, personal, equity, and economic purposes other than primary providers to support trades and professions. They offer effective support for skills development, such as meeting the employer's skill demand, maintaining workplace competitiveness, and effectiveness for older workers. Workplaces further provide the skills development opportunities for marginalised and disabled individuals. Overall, workplace learning assists workers to maintain their occupational competence, while enhancing their learning experiences provided by the educational institutions through effective student support for transition from educational institutions into paid work activities (Billett, 2008, pp. 2–3). In addition, workplace learning also saves on the firm's recruitment costs (Brunello & Medio, 2000, p. 3).

2.1.3 Training costs

Training cost is the money and time spent on training. In the context of workplace learning, training costs differ and depend on the educational level of the worker and firm size. In general, employers view training activities as costly (Berge, 2008, p. 392). However, employers are also willing to carry the majority of the training costs even when the skills are general (Brunello & Medio, 2000, p. 3). Training costs for uneducated workers are higher compared to educated workers (Brunello & Medio, 2000, p. 4). Moreover, employees from the market cost less to train because they already have the required general skills compared to newly graduates (Brunello & Medio, 2000, p. 5). According to Barrett & O'Connell (2001, p. 650), when employers bear all the costs of general training they reduce the wage during training. According to Filipe & Karen (2004, p. 9), large firms fund training programmes with greater ease compared to small firms. The reason for this is that large firms have easy access to capital

markets. They further suggest that training costs may or may not differ based on different industry sectors (Filipe & Karen, 2004, p. 10).

2.1.4 Workplace training and education and training in education institutions

Learning at school is based on formal and intentionally planned educational activities whilst workplace training is largely informal in nature (Tynjala, 2008, p. 132). There are considerable differences between workplace and school learning but there are also similarities. Billet (2004, p. 1), argues that describing workplaces as informal, non-formal or unstructured limits the understanding of workplaces as learning spaces. The lack of qualified teachers and classroom like interactions, this often leads to assumptions that learning in the workplace is inferior to that imparted in educational institutions. The activities and interactions in the workplace are highly structured and regulated, and they contain inherent pedagogic properties similar to those in educational institutions (Billett, 2004, p. 2). Similarly, Tynjala (2008, p. 133) argues that workplace learning is becoming more similar to school learning because it can function as a context for formal employee training through corporate training programmes. The university programmes are now incorporating occupational preparation through higher vocational education. Similar to vocational education in technical and vocational colleges, universities now prepare students for professional work including the experience relevant to their intended occupations. The aim is to assist and facilitate student transition from university into professional work practices after graduation. According to Virtanen, Tynjälä, & Stenström (2008, p. 22), workplace learning experiences featured in higher education programmes assist individuals in identifying the occupations they prefer and are suited for, and helps pupils to understand the world of work beyond the classroom.

2.1.5 Interaction between novices and experts

The interaction between novices and experts is of crucial importance in workplace learning. It helps transfer knowledge that would be difficult to learn without the guidance and assistance of an experienced and knowledgeable individual. The novice and expert relationship takes place in a number of ways, and experienced co-workers make difficult practices and concepts more accessible to the novices (Tynjala, 2008, p. 135). The novice is not the only person who learns in the workplace. There is daily knowledge transferring across the traditional workplace

boundaries of age, experience, and status. Experts guide novices in some activities while novices may guide experts in other activities (Tynjala, 2008, p. 135).

While a range of guidance is available in work settings for learners, learners themselves also mediate much of their own learning. This is likely essential where there is a need to integrate learning from both the educational and workplace setting, such as in an apprenticeship programme. An apprenticeship programme is a learning programme structured towards the achievement of a listed trade that includes a trade test in respect of that trade. It covers theory, practical, and applied workplace learning i.e. on the job training. An apprenticeship is limited to technical trades and the Competency Based Modular Training (CBMT) system. Therefore, it is mandatory that apprentices pass the relevant modular, phase tests, and the final trade test to become qualified artisans. Apprentices work for the employer for a minimum or maximum period as prescribed in the relevant conditions of the apprenticeship programme. In the novice and expert environment the learners engages with other learners and exercises efforts to maximise their own learning through integrating the theoretical and practical experiences. Smith (2003) argues that for workplace training to become successful and reliable, training needs to be much more than training manuals or manufacturing books. The supervision and the flexibility of training i.e. the opportunities given to trainees to ask questions and engage in discussions during training is necessary for reliable skill development in the workplace (Smith, 2003, p. 61).

The concept of pedagogy practices is relevant to all employees and workplaces. The quality of the workplace training is much more dependent on how it is structured and delivered than being perceived as a demonstration of behaviourally based competencies (Smith, 2003, p. 66). To be precise, for knowledge to be constructive it requires learners to exercise some form of independence and to engage with trainers and the learning material. Workplace training and training programmes are effective when they motivate the trainees to improve their performance, to clearly demonstrate desired skills, and provide an opportunity for trainees to be active participants (Smith, 2003, p. 73). Personal agency drives learners to secure rich learning outcomes. The ongoing learning throughout the learner's working life will likely motivate them in learning through work. Personal agency then becomes central in managing learning through work for older workers, the semi-skilled, and marginalised individuals because a majority of these workers are provided with the least workplace support for their

learning (Billett, 2008, p. 10). Organisations, therefore, should establish and implement ways of encouraging people to share their expertise (Billett, 2008, p. 10; Tynjala, 2008, p. 135).

2.2 Workplace training and skills shortage – South Africa

Historically, workplace training in the South African manufacturing industry has been carried out by public entities and state-owned enterprises, like Eskom, Iscor, SAR&H, the Department of Public Works and the defence force (Duncan, 2017, p. 6). The public entities and state-owned enterprises used to train staff beyond their needs and received training incentives from the state. Although there was an oversupply of skilled labour in the sector, the manufacturing industry continued to experience skills shortage because the skills supply was always inadequate to meet the skills demand of employers. The state-sponsored immigrants from Europe filled the skills gap. This resulted in the majority of companies not investing in employee training even to meet their immediate skills demand.

Historically, the majority of the country's industries have been and continue to be affected by skills shortages, such as the automotive industry (Barnes & Meadows, 2008, p. 58), the chemicals industry (Blueprint Strategy & Policy, 2005, p. 42), and the tourism industry (Rogerson, 2008, p. 27). Nevertheless, to this day the private-sector employers continue to be slow in responding to the skills crisis and the public entities continue to conduct the majority of artisan training (Duncan, 2017, p. 7). South African employers have long been accustomed to having much of their training done and paid for by external entities. After the end of state-sponsored immigration and state-funded enterprise training the economy experienced an increase in skills shortage (Duncan, 2017, p. 7).

2.3 A general overview of workplace training challenges in SMEs

The IFC report (2015, p. 98), suggests that global companies choose to invest or not invest in employee training for numerous reasons. Small firms, for instance under-invest in workplace training because they face numerous challenges. According to Chinomona (2013, p. 1887), SME employers often adopt a personal approach when it comes to workplace training. They make decisions on how much they want to spend on training and measure the impact of training expenditures on their firm's performance for possible future investments.

The following are among the various factors that negatively affect SME workplace training in European and some African countries:

- The uncertainties about the outcomes of training investments and lack of commitment by the owners to manage and grow their businesses (IFC, 2015, p. 100);
- The inadequate training facility structures (Dockery *et al.*,1997, p. 18);
- The financial pressure and lack of resources that results in the use of external funding sources with high interest rates and expenses (Fatoki, Olumuyiwa, & George, 2011, p. 200);
- The low annual profits and lack of government support (Magableh *et al.*, 2011, p.107);
- The time consuming training administration (OECD, 2013, p. 31;Berry *et al.*, 2002, p. 62; O'Regan *et al.*, 2010, p. 8);
- The nature of employee selection criteria in SMEs i.e. the employment of already skilled individuals (Ballot *et al.*, 2006, p. 20; OECD, 2013, p. 33); and
- The perceptions of SME owners about the liabilities of future training investment returns such as employee turnover (Magableh *et al.*, 2011, p. 105).

According to Collins *et al.*, (1997, p. 328), in modern organisations wider distribution of expertise throughout the organisation is important to avoid too much organisational knowledge amongst key individuals who can easily leave the firm for a better job. It is therefore more desirable to encourage as many workers as possible to become broadly knowledgeable and for SMEs to create flexibility across tasks so that corporate knowledge is not lost if workers decide to leave the firm.

2.3.1 Management skills

According to Brink, Cant, & Ligthelm (2003, pp. 2–3), there is a strong correlation between the perceptions of SME owners about the problems that affect the success of their businesses and the level of managerial qualification they hold. A study conducted in Gauteng, South Africa found that SME employers without management qualifications perceive lack of management training and skills to negatively affect the success of their businesses (Brink *et al.*, 2003, p. 13). These SME employers regularly experience human resource problems in staff planning, labour relations, and an inability to appoint suitable employees (Brink *et al.*, 2003, p. 16; Fatoki *et al.*, 2011, p. 197). Furthermore, these owners experience numerous financial

problems compared to educated SME employers (Brink *et al.,* 2003, p. 17). Educated SME employers are generally committed to effective task planning, organising, leading, and controlling (Brink *et al.,* 2003, p. 14). Similar studies in South Africa have also indicated that the level of education of SME owners positively impacts on the firm's growth and success (Rogerson, 2000, p. 687). The rate of success of black owned manufacturing SMEs in the Western Cape, South Africa is largely influenced by the level of education attained by their owners (Sawaya, 1995, p. 118). Therefore, effective support for management functions and training in SMEs is crucial for their success (Brink *et al.,* 2003, p. 17).

2.3.2 Employee training

In European countries the lack of trainable workers is among the major obstacle for workplace training in SMEs (Ballot, Fakhfakh, &Taymaz, 2006, p. 20). Employees attitude determines how effective training will be within the organisation and to what extent employees will use their capabilities within the organisation. Consequently, employees with good attitude and behaviour are more likely to positively impact and benefit a firm's performance (Katou, 2009). The results from the research study conducted by Olatunle, Mukulu, & Orwa (2015, p. 248) in Nigeria suggests that the training and development that is mediated by employee skills, employee attitudes, and employee training methods is likely to positively affect SME performance. The textile SMEs in Nigeria, for example had a lack of skilled workforce to produce quality products, and so employers had to use rewards and incentives to sharpen employees' attitude towards effective job performance (Olatunle, Mukulu, & Orwa, 2015, p. 259). Berge (2008, p. 393), suggests then that it may be helpful for organisations to know whether or not the trainees perceive the training interventions to be positive and valuable in order to evaluate whether or not the training outcomes can be accomplished.

2.4 A general overview of apprenticeship training

Apprenticeship learning as situated learning takes place in the context of activity (practical's) rather than being taught as theoretical knowledge (Lajoie & Lesgold, 1989, p. 16). A well-known example is the medieval guild system that used to socialize novice apprentices into a craft (Tynjala, 2008, p. 143). By the mid-nineteenth century in Europe this form of apprenticeship had already been replaced by a live-out and waged arrangement that was more arm's length and employed by larger firms. In the late nineteenth century, legal indentures had

died out and formal and binding arrangements between employer and trainee were in place (Lolwana, 2013, p. 54). Globally, countries have replaced the guild system with school-based vocational education systems. However practical training continues to be essential for the majority of vocational and higher education qualifications (Tynjala, 2008, p. 143). Traditional apprenticeship training required apprentices to perform tasks physically. Lajoie & Lesgold (1989, p. 16), argue that sometimes students struggle to transfer what they learn in theory into practical. Therefore, it becomes necessary to establish ways of externalizing cognitive processes to improve apprenticeship training.

2.4.1 Apprenticeship training – South Africa

The South African apprenticeship system aims to increase the pool of people trained to intermediate-level skills. An apprenticeship programme involves on-and off-the-job training. The on-the-job training requires a contract of employment between an apprentice and the sponsoring firm. The apprentice works in a firm and learns while they work. The off-the-job training is carried out by learning providers, such as private training companies, employers, and FET Colleges (Mukora, 2009, p. 219). An apprenticeship programme forms part of the vocational education and training system that consistently has positive employment outcomes (Duncan, 2017, p. 4). Apprenticeships are well structured and their work-based training lead to expertise in a skilled occupation. In addition to their theoretical occupational knowledge, apprenticeships require a significant amount of authentic work experience under the supervision of a qualified trainer. The apprentice writes an externally administered trade test after if successful the candidate can become a qualified artisan (Duncan, 2017, p. 4).

Historical background

Traditionally, the apprenticeship system has been the main formal method of skills formation for manual workers in South Africa. It emanates from the British apprenticeship system (Lolwana, 2013, p. 53). Since the 1600s to the 1980s South Africa and all its social institutions were initially shaped by colonialism and the apartheid system (Wedekind, 2003, p. 39). Therefore, the apprenticeship system cannot be separated from a broader social history of colonialism and apartheid, especially since the history continues to remain embedded in the discourses that shape the system (Wedekind, 2003, p. 39). The apprenticeship system in South Africa has been more directly linked to slavery rather than an adoption of the ‘middle ages’

European tradition (Wedekind, 2003, p. 39). This history has shaped the perceptions and values of the apprenticeship system that run deep in communities and the ways in which the system benefited, exploited, excluded and included various categories of citizens (Wedekind, 2003, p. 41). In the current context, the Manpower Training Act (No. 56 of 1981) is the legal framework that regulates the apprenticeship system (Mukora, 2009, p. 219). This Act replaced numerous laws that promoted racial segregation for the training of employees in various institutions (Lolwana, 2013, p. 54), for example the Training of Artisans Act (No. 38 of 1951) and the Apprenticeship Act (No. 37 of 1944) (Mukora, 2009, p. 233).

According to Wildschut (2016), the structural inequalities present in the South African society continue to manifest in artisanal work and training across racial, gender, age and language exclusivity and dominance. While there is a decline in racial inequality in formal apprenticeship representation and an increased access to apprenticeship occupations, the construction of artisanal work and occupations continue to contribute to structural inequalities in the 21stCentury. Wildschut's (2016) study suggests that if South Africa wants to prepare the right amount of artisans with appropriate skills for the labour market the government, the employers, and society needs to confront the history of the country and shift the historical trends by providing more opportunities for young, black, and women artisans.

Similarly, McGrath & Martins's (2005, p. 38) study on employee training in very small and micro enterprises showed that fewer black people were receiving training in these enterprises. Furthermore, their findings show that women were mostly receiving training in administrative and secretarial skills and less on managerial and technical occupations. In addition, their study showed that compared to other racial groups, white people received training in more prevalent occupations. Consequently, this suggests racial and gender segregation remains persistent within occupation groups.

Decline and revitalization of apprenticeships

In the 1980s the apprenticeship output rate dropped and reached it low point due to recession, removal of government support, and the commercialisation and privatisation of the state-owned enterprises (Mukora, 2009, p. 220). Post 1994 the number of apprenticeships were already in decline and further declined after the Skills Development Act of 1998 sought to replace them with learnerships (Duncan, 2017, p. 5). A learnership is a structured learning programme that includes theoretical and practical workplace experiential learning over a period of at least 12 months. The learnership programme was going to be available across a range of modes of

delivery, such as colleges and the workplace. The SETAs were established to manage and fund this system (Wedekind, 2003, p. 41). Learnerships failed to deliver the necessary skills needed by the industry because of their short duration focused on the atomized and low-level competences described in unit standards. Learnerships failed to develop the holistic, integrated, and high-level competence for artisan trades (Duncan, 2017, p. 5).

The employers and the government have since begun to revive the apprenticeship system through various initiatives. These initiatives have been launched to increase the number of apprentices, improve the quality of apprenticeship training, establish uniform apprenticeship systems and standards, streamline and simplify apprenticeship administration, and re-introduce rigorous apprenticeship quality assurance (Duncan, 2017, p. 5). Moreover, the SETAs are now prioritising this area, reorganising, and funding apprenticeship training (Lolwana, 2013, p. 55). Given these improvements the employment trajectory of newly-qualified artisans is positive, apprentices are earning decent wages and many of them have established viable small enterprises that create employment (Duncan, 2017, p. 5). According to Lolwana (2013, p. 56), the South African government needs to better understand the training schedules and provide apprentices with meaningful work. The government should provide SMEs with mentors that can teach and supervise apprentices and provide effective management of SETA allocated grants to support this function. The government and learning institutions alike, should assume a role in providing workplace learning for many apprentices.

2.5 Small and medium enterprises – South Africa

South African SMEs range from micro-enterprises to relatively large firms. Many are survivalist firms and others are highly sophisticated firms (Mahembe, 2011, p. 65). Some are family owned and others are non-family owned (Thwala & Phaladi, 2009, p. 535). They form an integral part of the country's economic development and make a massive contribution in personal development (Brink *et al.,* 2003, p. 3; Sekhametsi, 2017, p. 49; Thwala & Phaladi, 2009, p. 533). The government has recognised their importance and has implemented policies that support them (Brink *et al.*, 2003, p. 2).

2.5.1 South African SMEs challenges and constraints

Globally, the SME sector encounters serious challenges and constraints and South African SMEs are no exception. External constraints often involve the surrounding economy, social

and political environment, legislation and rules, and the availability of funds (Beyene, 2002, p. 144; Yahya, Othman, & Shamsuri, 2012, p. 16). These challenges often result in business failure (Mahembe, 2011, p. 15). The following are some of the South African SME challenges:

- The complex tax system (Abrie & Doussy, 2006, p. 5);
- The of lack proper quality control in the production process and proper planning capacity (Brink *et al.*, 2003, p. 5);
- The inability to gain access to new and efficient technologies, and the relevant information about available technology (Sekhametsi, 2017, p. 54);
- High input costs, like electricity and petroleum (Olawale & Garwe, 2010, p. 731); and
- Poor management skills and experience, poor training facilities, deficiency of appropriate human resource skills, and lack of workplace skills training (Magableh *et al.*, 2011, p. 105; O'Regan *et al.*, 2010, pp. 9–10; Perks & Smith, 2008, p. 150; Yahya *et al.*, 2012, p. 17).

Finances and crime

Literature shows financial constraints and high crime rate as the major obstacles for South African SMEs. Financial constraints and crime decrease the chances of business survival and delay the realisation of SMEs as potential drivers of employment, poverty alleviation, and the nation's economic growth (Sekhametsi, 2017, p. 71; Mahembe, 2011, p. 33). In terms of financial management skills, South African SME employers lack financial management competence, financial information, financial planning, and financial bookkeeping skills (Brink *et al.*, 2003, p. 5). Crime threatens the long term sustainability and business success of SMEs (Sekhametsi, 2017, p. 71). The level of crime negatively affects SME investment, sales, and the general costs. Business related crimes in South Africa are on the rise and the majority of robberies are happening to small businesses (Olawale & Garwe, 2010, p. 732).

There are a variety of government funding and support programmes that aim to ensure the sustainability of small enterprises as mentioned earlier (DHET, 2011, p. 19). Khula Enterprise Finance is one example of an agency by the Department of Trade and Industry established in 1996 that facilitates SMMEs access to finance. The White Paper of the Department of Trade and Industry principally informs the South African small business policy. The National Strategy for the Development and Promotion of Small Business in South Africa aims to

improve financial access and affordable physical infrastructure for SME development (Mahembe, 2011, p. 27). For more publications that provide information on the government SME support programmes, they are easily accessible in the South African Department of Trade and Industry website.

Unfortunately, only a few South African SMEs make use of government incentives and support programmes (Mahembe, 2011, p. 42). Maye (2014, p. 8) states that the current government assistance to small business is complex and difficult to navigate. He argues that the state should collaborate with other departments and establish a unified initiative to present to small business owners. The government must connect investing networks to entrepreneurs through business plan competitions, information sessions, and public/private partnerships in order to provide awareness to SMMEs and for SMMEs to take advantage of the incentives available to them (2014, p. 9).

Skills shortage in South African SMEs

South African SMEs lack both management and employee skills. Management competencies is defined as skills, attitudes, behaviours, and knowledge-sets that contribute to personal effectiveness (Olawale & Garwe, 2010, p. 731). South African SMEs face the pressure to secure the right skills in order to decrease skills shortage. Furthermore, they need an easy access to the supply of skilled and motivated labour. However, it can be difficult for SME employers to find skilled labour in the labour market because the cost of skilled labour is too high (Olawale & Garwe, 2010, p. 732).

Regarding artisan retention in organisations, Wildschut (2016) argues that the South African labour market lacks the capacity to absorb all the qualified artisans from the TVET system. She argues that the state prioritise artisan training for the success of the planned growth trajectory. She proposes a more in-depth study that aims to understand people's attitudes to occupations. The government must develop a policy framework that addresses the artisan skills production more broadly by examining the real opportunities available to artisans. Accordingly, Van Rooyen, Du Toit, Botha, & Rothmann (2010) argue that artisan retention is important to address artisan skills shortages. They argue that with a sufficient number of artisans the country can encourage infrastructure development, economic growth, and wealth creation. Their study indicates that the remuneration package, quality, recognition, management, and the working

environment for artisans are the most important factors to retain artisans in an organisation. Van Rooyen et al. (2010) therefore, suggest that artisan retention needs management from an employee perspective and that communication between management and the employee is critically important in identifying the factors for retention and the needs that satisfy artisans.

To address skills shortage in all sectors of the economy the government has developed a National Skills Development Plan 2030 (NSDP) with the objective of responding to the White Paper policy goals. The White Paper's policy goals aim to improve the integration of post-school education and training; and the interface between education and training institutions, SETAs, and the world of work (DHET, 2017, p. 9). The SETAs in terms of the Skills Development Act passed by the South African Parliament in 1998 aim to help implement the National Skills Development Strategy and to increase the skills of people in their respective industry sectors (DOL, n.d., pp. 2–4). The employers pay 1 per cent of their payroll and 80 per cent of that levy goes to the SETAs. The employers receive discretionary and mandatory grants back upon the submission of their training plans and reports. The strategy is to motivate employers to engage in skills training and provide information that will expose and highlight the training needs of sectors (Allais, 2012, p. 633). While some SETAs have been successful, others have not (Rothmann & Pieterse, 2007, p. 298). The SETAs face a range of challenges in governance, meeting their targets, and manoeuvring their complex administrative system (DHET, 2011, p. 9; Duncan, 2017, p. 9). The SETA levy-grant system is criticised by employers as they often perceive the levy as an additional tax (Allais, 2012, p. 634).

Moreover, the SETAs have difficulties meeting the skills need of SMEs. Many small and micro-sized enterprises lack the motivation to submit their Workplace Skills Plans and Annual Training Reports to SETAs. The SME employers perceive the skills levy to be small and not worth the administrative burden. The majority of SMEs prefer not to engage in SETA-funded training because of the complex administrative process involved in applying for grants (Kraak *et al.,* 2013, p. 5). The other main challenge for the South African skills system is the weak vocational education and training system that produces a low number of skilled individuals and incompetent graduates for the world of work. There is a definite mismatch between the skills supply and skills demanded by employers (Duncan, 2017, p. 8; Kraak *et al.,* 2013, p. 9). The poor articulation between education and training key players i.e. FET Colleges, universities and the world of work is a dominant feature of the broader post-school education and training system in South Africa. In addition, the majority of the vocational programmes in public

technical colleges fail to provide a clear pathway for graduates to the world of work (Kraak *et al.*, 2013, p. 10).The majority of technical colleges use outdated curricula, under-qualified lecturers, and have poor infrastructure (OECD, 2013, p. 31). As a result, employers have developed a negative perception about the quality and competence of technical college graduates (Berry *et al.*, 2002, p. 64).

Allais (2012, p. 633) suggests that for vocational education in South Africa to improve the vocational education policy should be placed in a broader social policy, such as a better regulated labour market that provides job security. She further suggests that meeting employer needs requires less focus on what the employers demand in the short-term and more focus on building a strong vocational education curricula based on well-defined areas of knowledge. Moreover, to better understanding strategies that can assist students to acquire this knowledge (Allais, 2012, p. 633). According to McGrath & Akoojee (2009), the failure of Public FET colleges results from the failure of government strategies and poor policy implementation. They argue that because the public providers dominate vocational education, the result is a frequent mismanagement of vocational education by the Ministries of Education. McGrath & Akoojee (2009), suggest that the state prioritise and offer occupation-training support to both the public and private providers since private providers deliver more successfully on vocational education and training compared to public providers. Their study further suggests that private providers are more likely to receive work from the private sector compared to public providers.

2.6 Conclusion

This chapter provided an overview of literature on workplace training in an international, African and national context. The literature covered the meaning of learning at work in a general context: the way in which situation learning occurs, the different levels of workplace training, and the different ways in which individuals learn in the workplace – not being specific to large nor small firms. The literature argues that workplace learning outcomes can be negative and positive for the companies. Furthermore, workplace training is difficult to evaluate and measure for firms with outdated accounting methods and faulty methodologies, and for employers who lack knowledge on how to measure the returns on training investments. Training costs to company differ depending on firm size and industry sector.

Some authors argue that there are significant differences between workplace learning and school learning, whilst others argue that describing workplaces as informal, non-formal, and unstructured compared education institutions limits the understanding of workplaces as learning spaces. The literature argues that the relationship between novices and experts is of crucial importance in the workplace and therefore organisations need to find ways of encouraging people to share their expertise.

In the South African context, workplace training for manufacturing and other industries in the past has been carried out by public entities and state-owned enterprises. South African private employers have been accustomed to having much of their training done or paid for by external entities. In general, SMEs experience more workplace training challenges compared to large companies, both globally and nationally. The challenges range from financial constraints, lack of resources, inadequate training facility structures, lack of government support, uneducated and inexperienced SME owners, and lack of trainable workers. The literature shows financial constraint as a major obstacle for South African SME growth and development. Few SMEs make use of government initiatives and support because they either lack awareness of available funding initiatives and/or because they find government assistance to be difficult to navigate.

The apprenticeship system in South Africa aims to increase the pool of individuals trained to intermediate-levels skills. Historically, apprenticeship training in South Africa emanated from a colonialist and apartheid background which reshaped the perceptions and values of the apprenticeship system. The system fell into decline and was replaced by a learnership system. However, the learnership system failed to deliver its vision. The apprenticeship system is now being revived again by the state and employers due to the increased demand for artisan skills.

Overall, this chapter has provided an overview of workplace training literature that shows that workplace training is beneficial to SME employers, employee skills enhancement, and economic development. It further shows that SMEs face various challenges and constraints that hinder their investment in workplace training.

3 RESEARCH METHODOLOGY

This research aims to explore and understand the barriers to workplace training in South African manufacturing SMEs by documenting and critically analysing the views of HR managers and training supervisors in selected manufacturing SMEs and skills development practitioners in the MERSETA. This chapter covers the research approach, research design, data collection, research procedure, data analysis, validity and reliability, ethical considerations, and the study's limitations.

3.1 Research approach

This study uses an interpretive philosophical worldview that centres on the way human beings make sense of their subjective reality and attach meaning to it. The study uses an exploratory research design and examines the reality of participants through the interpretations of the researcher. The research design aims to identify the areas in which the problems of interest occur and to identify the salient factors found relevant to the research (van Wyk, n.d.).

Accordingly, the researcher explores the views of HR managers and training supervisors in selected manufacturing SMEs, and skills development practitioners in the MERSETA in order to identify the barriers to workplace training in manufacturing SMEs. This study seeks to understand better the world of work in which training takes place. The researcher understands that the nature of the world is socially constructed and that complete objectivity and neutrality are impossible to achieve because the values of the researcher and participants can become an integral part of the research.

3.2 Research design

This research study uses a qualitative research design which is defined as "a systematic and in-depth investigation of a particular instance in its context in order to generate knowledge" (Rule & Vaughn, 2011, p. 4). It explores experiences and perceptions of HR managers and training supervisors in selected manufacturing SMEs, and skills development practitioners from the MERSETA. The units of study are three MERSETA registered manufacturing SMEs and one SETA i.e. the MERSETA. The MERSETA is one of 21 Sector Education and Training Authorities (SETAs) established to promote skills development in terms of the Skills Development Act of 1998. MERSETA includes a range of manufacturing activities in addition to a few related services and activities. MERSETA member companies belong to one of five chambers: metal and engineering; auto; motor retail and component; tyre; and plastics manufacturing industries (MERSETA SSP, 2017-2018: p. 1). The three manufacturing SMEs examined fall into metal and plastics chambers based on the goods and services they manufacture.

3.3 Data collection

The study covered SMEs in the manufacturing sectors that conform to the definition given by this study. Manufacturing industries fabricate, process, and prepare products from raw materials and commodities, such as chemicals, equipment, and machines. The study was conducted in Johannesburg, South Africa. The MERSETA and the Steel and Engineering Industries Federation of Southern Africa (SEIFSA) assisted with getting the sample for the study.

The study uses purposive sampling that is a non-probability sample. The main objective of purposive sampling involves producing or selecting a sample representative of the population. A purposive sample draws a sample of three training manufacturing SMEs with nine participants (three HR managers and six training supervisors) and eight skills development practitioners in the MERSETA to validate the findings. The participants' selection criteria is based on the participants' perceived knowledge and experience of workplace training in manufacturing SMEs and their willingness to participate in the study. The sample criteria targeted manufacturing SMEs registered with MERSETA and who are involved in workplace training.

The data collection involved a qualitative self-administered interview schedule with semi-structured questions conducted sequentially with a mini-questionnaire with closed questions. The interview questions were semi-structured in nature to allow the participants to express themselves with fewer limitations. The interviews were face-to-face with the participants. This allowed the researcher to visit the participants in their respective place of work. The interview questions for the three manufacturing SMEs comprised 26 semi-closed and open-ended qualitative questions covering five sub-research questions (see Appendix A). The mini-questionnaire for the three manufacturing SMEs compromised 13 closed questions (see Appendix B). The researcher used Microsoft Office: Word and Excel Spreadsheet to transcribe the data (see Appendix C). The HR managers and training supervisors in selected manufacturing SMEs received the same set of questions. The interview questions aimed to assess the barriers to workplace training in manufacturing SMEs and the impact of workplace training on the firms' employment growth with a goal to achieve the objective of the study.

The interview schedule for skills development practitioners in the MERSETA had eight structured open-ended qualitative questions (see Appendix D). During the course of the interview the researcher had to prompt the skills development practitioners in the MERSETA with extra questions to validate the findings from the three manufacturing SMEs (see Appendix E). The data analysis for the three manufacturing SMEs interview involved categorising and developing emerging themes (see Appendix F). The researcher's interpretation of the data developed the themes and patterns of the findings.

3.4 Research procedure

The researcher requested assistance from the MERSETA and SEIFSA to gather the manufacturing SME sample because the SMEs were not willing to participate in the study. The MERSETA sent an e-mail request to the SEIFSA executive asking them to assist the researcher to gather the manufacturing SME sample. The SEIFSA executive sent an email to the selected manufacturing SMEs requesting their participation in the study. Only two out of more than 10 selected manufacturing SMEs responded to the email agreeing to participate in the study. The researcher had to set up interview dates with the two firms willing to participate in the study. Upon requesting assistance from the MERSETA Client Liaison Officers (CLO's), the researcher was able to get one more firm to participate in the study. Accordingly, after achieving her minimum sample size the researcher sent an e-mail to each of the manufacturing SMEs that were willing to participate in the study. The e-mail had the following attached documents:

- The copy of the participant consent form (see Appendix G)
- A formal letter to the firm (see Appendix H)
- Informal sheet to the participant (see Appendix I), and
- The approved ethics clearance letter from the university (see Appendix J)

During the interview meetings, the researcher informed all the participants of the study about the purpose of the study. In addition, each participant signed the participant consent form.

The researcher visited the respective firms on the agreed scheduled interview date. The interview date for Firm A was beginning of October 2017, Firm B mid-October 2017, and Firm C end of November 2017. The interviews took approximately 20 minutes to 30 minutes for each participant. In each firm, the researcher interviewed one HR manager and two training supervisors. In total, the number of participants interviewed in all three manufacturing SMEs equalled to nine. The interviews with the skills development practitioners in the MERSETA took place at the MERSETA boardrooms. In total, the researcher interviewed eight MERSETA participants. This totalled the number of participants interviewed for the study to seventeen (see Appendix K).

3.5 The conduct of interview sessions

The HR managers in the three manufacturing SMEs facilitated the introduction between the researcher and the participants. The phone calls and noise affected the quality of the interview process because the researcher had to pause the recording and change boardrooms. In Firm C, the researcher had the opportunity to engage with the apprentices and ask them general questions about their experiences in the workplace. The researcher did not record this interaction because the formal consent between the apprentices and the researcher did not take place. Apart from the time constraints, the delays prior to and during the course of the interviews, and the small sample size obtained for the study the researcher felt that she was able to gather useful data. Furthermore, all the participants were accommodating and their responses were helpful for the success of the study.

3.6 Data analysis

The study utilised a qualitative research thematic content analysis approach to pinpoint, examine, and record patterns of the experiences and perceptions of HR managers and training supervisors in selected manufacturing SMEs, and skills development practitioners in the MERSETA on workplace training in manufacturing SMEs. Using Microsoft Office: Word and Excel Spreadsheets, the researcher was able to select the relevant themes according to their re-occurring patterns highlighted in Chapter Five.

3.7 Validity and reliability

Validity and reliability criteria measure the social research, the integrity of the research output, and the degree to which the measure of a concept is stable. To support the emerging findings of the study the researcher used multiple literature resources. Links to existing literature assisted the researcher to improve the validity of the findings. This helped the researcher to demonstrate the trustworthiness of the study. Triangulating the findings with MERSETA interviews helped improve the validity of the findings from the three training manufacturing SMEs. The researcher is aware that considering the nature of the study a bigger sample, a quantitative survey or a mix-methodology approach would have been more valid and reliable. However, using a survey was not possible for this study because of the small sample size. A small sample size affects the reliability of a survey's results because it leads to a higher

variability i.e. the results of this study would be less representative of the entire population results that may lead to bias.

3.8 Ethical considerations

The e-mails sent to all the participants of the study had attached an approved ethics clearance letter from the university and the formal consent letters to the participants before the start of the interviews. The researcher informed the participants about the purpose of the study. The researcher asked the participants to read the approved ethics clearance letter from the university and all the relevant consent forms before signing any documentation. After the participants had finished going through the documents, the researcher requested the participants to fill in the consent form and sign it in agreement to participate in the study. The participant consent form granted permission to the researcher to use a digital recorder during the interview and to conduct the interviews. The researcher further informed the participants about the confidentiality, safety, and anonymity of the study.

3.9 Limitations

The time limitations of the study were inevitable since the progress of the study depended on the willingness and consent of the participants. Moreover, because of the time constraints, the researcher was only able to gather a small sample size for the study. This then affected the accuracy and reliability of the findings. However, the researcher believes that the interviews with the skills development practitioners in the MERSETA helped the triangulation and improved the trustworthiness of the study. The distance to and from the firms posed as another constraint for the researcher but she was able to arrive on time for the interviews. Moreover, because the training supervisors were busy in the factory this resulted in the researcher rushing through some interview questions and having to skip some of the questions. As a result, the findings from the study cannot be generalised beyond the manufacturing SMEs involved in the study but may enable one to think critically about the barriers to workplace training in the manufacturing SMEs from the perspectives presented when read in relation to other studies.

3.10 Conclusion

This chapter provided an overview of this study's research methodology. This study uses an interpretive philosophical approach and an exploratory qualitative research design. The data was collected using a purposeful sampling method and a qualitative self-administered interview schedule with semi-structured questions together with a mini-questionnaire with closed questions. Overall, 17 participants were interviewed for the study. The major limitation of the study was time and a small sample but the interviews with MERSETA officials helped the researcher with triangulation which improved the trustworthiness of the study.

4 FINDINGS

This chapter sets out the findings from the three training manufacturing SMEs selected for this study and the findings from MERSETA juxtaposed with the MERSETA Sector Skills Plan 2017 – 2018. The researcher explored the views of HR managers and training supervisors in selected manufacturing SMEs, and skills development practitioners in the MERSETA on apprenticeship and learnership training. The aim was to identify and understand barriers to workplace training in the manufacturing SMEs. The researcher interviewed nine participants from three manufacturing SMEs and eight participants from MERSETA using a purposeful sampling approach and a semi-structured interview schedule.

4.1 The importance and benefits of apprenticeship and learnership training

The findings with regard to the importance and benefits of apprenticeship and learnership training in the three manufacturing SMEs selected for this study suggests they consider training as an incentive because they develop and create skills. In addition, these SMEs save on recruitment costs because they hire apprentices who perform highly skilled tasks at a lower wage.

> *Well, I think [our firm is involved in apprenticeship training] for two reasons: to help the company, and of course if you don't have the learners or the apprentices you've got to employ artisans whereas the apprentices get better skilled they can do the artisans job. So two, workplace training saves the company money*. (Participant B, Apprentice trainer)

The three manufacturing SMEs engage in apprenticeship and learnership training to eradicate technical skills shortage and to give back to the community.

> *[Apprenticeship and learnership training] allows us to develop in training, to utilise skills resources, to create skills resources and to eradicate skills shortage*. (Participant G, Human resource manager)

> *So [we participate in apprenticeship and learnership training] to give back to the community and help students' with their future*. (Participant D, Human resource manager)

These findings indicate that the three manufacturing SMEs participate in workplace training for different reasons and the main reasons being increasing the technical skills and saving on recruitment costs.

4.2 Number of employees in the three manufacturing SMEs

The findings with regard to the number of employees in the three manufacturing SMEs in Table 4 shows the total number of employees employed in the three manufacturing SMEs, respectively. Here the employees employed include all staff members employed by the SMEs. Firm A has 130 employees, Firm B 171 employees, and Firm C a total of 31 employees. When linked with the classification of manufacturing SMEs from chapter the findings show that Firm A and Firm B are medium sized firms, and that Firm C is a small sized firm. Therefore, all three firms meet the sampling frame of this study.

Table 4.Total number of employees in the manufacturing SMEs

FIRM A	FIRM B	FIRM C
130	171	31

4.2.1 The effects of apprenticeship and learnership training on employment

The findings with regard to the effects of apprenticeship and learnership training on employment in the three manufacturing SMEs indicate that apprenticeship training has a positive effect on worker productivity and employment. Qualified apprentices can do their work more effectively and solve problems faster. The following quote illustrates some of the benefits:

> *In terms of productivity growth, I think because apprentices are getting skilled they can attend to breakdowns faster, repair faster, do problem solving, and they can assist to better the production process.* (Participant A, Apprentice trainer)

> *In my opinion, if you hire someone who has been on the production line and train him or her as an artisan they would know everything that needs to be known and fix it, especially in the production line. Unlike taking someone from the outside and sticking them inside the company… he does not know what is going on. Therefore, apprenticeship and learnership training has affected positively on our productivity*. (Participant E, Apprentice trainer)

> *Apprenticeship and learnership training has affected positively on our productivity. Some of the apprentices before they are even qualify we start using them for qualified artisan work and that saves money for the firm*. (Participant F, Apprentice trainer)

> *Well on the productivity side I cannot really answer that but on the maintenance side apprentices do have an impact… they help a lot. They help us out with little things.*(Participant B, Apprentice trainer)

The findings found that the permanently employed apprentices in these three manufacturing SMEs are those with technical knowledge, who are familiar with the work environment, and have been previously trained by the firm.

> *Well, I think apprentices know the work environment and they know the machines. It is easier to keep one of them on than to take somebody else from the outside.* (Participant B, Apprentice trainer)

The findings further suggest that the three manufacturing SMEs assist and support unemployed apprentices with job searching through their various networks and that sometimes would retain apprentices until they find permanent positions elsewhere.

> *Yes, we do [follow-ups]. Therefore, although they have qualified we have kept them with the idea that let us keep them up to December because they are unemployed but they know that if they get opportunities outside than they can leave. There is not a notice period attached to that because we are just trying to help them. We are also reaping the benefits obviously of having them around*. (Participant D, Human resource manager)

> *Yeah! [We assist apprentices we have trained but have not employed]. Therefore, what happens is we will always give a letter of recommendation and in some instances we will try to even find employment for them because we know many people in the industry. We will do whatever to support them in getting another job.* (Participant G, Human resource manager)

The findings indicate that the three manufacturing SMEs conduct academic, behaviour, and capability background check before hiring apprentices in permanent employment.

> *[We employ apprentices] because we saw the potential in them but to be quite honest with you we first check how he is doing at school, give them some bit of training here in the firm, and see how he performs because sometimes a person can be good on the theory but when it comes to practical he is not*. (Participant H, Apprentice trainer)

> *We are look at their performance at school, how they have been conducting themselves here at work, and their attitude*. (Participant D, Human resource manager)

The findings about the employment of apprentices from the perspective of MERSETA participants suggest that manufacturing SMEs employ apprentices in order to maintain and increase their sustainability. Similar to the responses from manufacturing SMEs, the findings from the MERSETA participants suggests that the three manufacturing SMEs prefer to employ

individuals they have trained instead of new individuals. The reason for this is that their trainees are familiar with the work environment and because they save on recruitment costs.

> *Yeah! [Manufacturing SMEs employ] but in most cases they like to keep their skills unlike the big companies. They hire the apprentices because that is also going to boost their sustainability*. (Participant O, MERSETA official)

> *Yes, [manufacturing SMEs employ] but majority of the companies would rather employ someone they have trained*. (Participant Q, MERSETA official)

The finding from one MERSETA participant suggest, however, that it is not always the case that manufacturing SMEs or even large manufacturing firms employ apprentices after completing their apprenticeship qualifications. The participant further suggests that sometimes manufacturing SMEs take on apprentices to comply with the training requirements and not necessarily because they are willing to employ them afterwards.

> *No [manufacturing SMEs do not employ], I can say 85 per cent or more than that of apprentices who are being trained in most of these organisations they are not absorbed by the organisations. The main thing for the organisations is to comply. Therefore, they train them and after release them because they just need to comply. Only a few of them employ and you can name them. Big companies especially, do not employ apprentices*. (Participant P, MERSETA official)

4.3 The apprenticeship and learnership programmes enrolment

Apprenticeships and learnerships form a crucial part of the skills supply to the manufacturing sector. According to the MERSETA SSP (2017, p. 38), the MERSETA promises to continue the uptake, support, and to monitor the registration and completion of apprenticeship and learnership programmes in the manufacturing sector. MERSETA SSP (2017, P.38) reports a total number of 78 778 apprentices and 81 483 learnerships that have been registered since the inception of SETA in2002. The findings with regard to apprenticeship and learnership enrolment in the three manufacturing SMEs in Table 5 show that Firm A has five apprentices and zero learners, Firm B had a total of 10 apprentices and 5 learners, and Firm C had six apprentices and zero learners. These findings suggest that the three manufacturing SMEs enrol a higher number of apprenticeships compared to learnerships.

Table 5.Number of students' enrolled in apprenticeship and learnership programme

TRAINING PROGRAM	FIRM A	FIRM B	FIRM C
Apprenticeship	5	10	6
Learnership	0	5	0
Total	5	15	6

The findings from the MERSETA participants suggest that manufacturing SMEs enrol more apprentices to learners in learnerships because an apprenticeship programme is more trade specific whilst learnerships generally focus on life skills and life orientation.

> *Generally [companies prefer apprenticeships] whatever the company size. Learnerships focus more on life skills and life orientation. Apprenticeships on the other hand are very job focused and that sometimes makes [apprenticeship training] easier for small and medium businesses [compared to learnership training]*. (Participant M, MERSETA official)

In addition, the responses from MERSETA participants indicate that firms in general, large or small, often regard learnerships as having a lot of administration that can be time consuming due to enormous paperwork.

> *SMEs prefer apprenticeships to learnerships because apprenticeships do not have a lot of paperwork.* (Participant J, MERSETA official)

> *Learnerships have a lot of paper work and that means they are going to take more time*. (Participant O, MERSETA official)

> *In our sector firms say there is a lot of paper work in learnerships, so they avoid [learnership programmes]*. (Participant P, MERSETA official)

Furthermore, the findings from MERSETA participants suggest that manufacturing SME employers prefer apprenticeship training because they themselves were once apprentices.

Remember, in small companies the owners were previously apprentices themselves because learnerships came later on. Therefore, employers are training according to their expertise that is why they value apprenticeships training. (Participant O, MERSETA official)

One finding from a MERSETA participant, however, indicates that some manufacturing SMEs prefer learnerships when the firm is in demand for general skills.

Many manufacturing firms prefer learnerships because their manufacturing usually lies within the learnerships programme. Moreover, with learnership programmes firms can target what they need. The only firms who might need the apprenticeship in the manufacturing industries are those who specialise in maintenance and the supportive service. (Participant Q, MERSETA official)

4.4 Gender

According to the MERSETA SSP (2017, p. 14) about 78 per cent males and 22 per cent females represent the gender profile of the manufacturing sector, indicating that males dominate in the sector. The findings with regards to gender discrepancy in the three manufacturing SMEs in Table 6 shows that Firm A has 3 male students and 2 female students, Firm B has 14 male students and 1 female student, and Firm C has 6 male students and 0 female students. The findings show majority of the students enrolled into the apprenticeship and learnership programmes in the three manufacturing SMEs are males. The result is similar to that found in the MERSETA SSP report.

Table 6.The gender of students' in apprenticeship and learnership programmes

GENDER	FIRM A	FIRM B	FIRM C
Male	3	14	6
Female	2	1	0
Total	5	15	6

The findings from the three manufacturing SMEs participants indicate that there are different factors that contribute to gender discrepancy in firms. Health and safety factors, for instance often determine the gender enrolled into an apprenticeship programme. Firms that operate in

hazardous environments enrol more males than females. Firm C, for example did not have sanitation facilities that cater for women and Firm B specialises in the chemical element, lead, that can cause birth defects for pregnant women.

> *We have like our general cleaner and we have the admin staff as females, but to bring additional females in here that means we have to do something about the sanitation facilities because the toilet is an issue. Therefore, it is quite a unique problem to have because people will normally say females cannot cope with heavy metals. That is not our experience. If you want somebody as an apprenticeship…what we find with women is that their fingers are nimble. So things like polishing of steel and managing small work pieces the females do better than the males do… our issue here is the toilet*." (Participant G, Human resource manager)

> *Our apprentices are males because we are a lead chemical company. We do not employ females in our factory*. (Participant F, Apprentice trainer)

On a similar note, the findings from MERSETA participants suggest that the manufacturing sector is hostile for female health and safety.

> *Other classic types of reasons for gender inequalities are often the physicality that some of these environments require and it is a dangerous environment.* (Participant M, MERSETA official)

> *I think many companies are trying to deal with this gender issue. They are trying to employ many women. The health issue could be a challenge that some people are facing as well.* (Participant Q, MERSETA official)

The findings from MERSETA participants indicate that the issue of gender inequality in the manufacturing sector is a widespread problem. However, there are strategies that the government has in place to deal with this problem.

> *There is no gender equality in most of the manufacturing engineering context. However, I think there is a significant effort to increase the gender balance*. (Participant M, MERSETA official)

> *I have a company that was actually taking only men but now they took a female. I went to do an inspection and told them they can take a female because of gender equality in nowadays. I said females can be apprentices and I have seen them all over the country*. (Participant O, MERSETA official)

Furthermore, the responses from the MERSETA participants suggest that the traditional stigmas and cultures held by manufacturing employers also determine the people they choose to enrol for an apprenticeship programme. These traditional stigmas and cultures hold that technical trades are for males because females do not have the strength to work with large objects.

> *[Gender inequality] is not only in SMEs but also even in large companies. It also goes with the traditional stigma to say that the trades are made for males. It is something that has been a culture to say that trades are made for males at the starting point. Coming to the SMEs it is also two folds: there is a belief that women cannot carry heavy loads and that if we take a male he will be able to quickly adjust and be more productive than a female*. (Participant J, MERSETA official)

> *Gender is an issue because females cannot do some trades because of health and safety. In addition, the industry has not transformed this comes from the legacy.* (Participant K, MERSETA official)

According to MERSETA participants, manufacturing SME employers further perceive female apprentices as a cost to company because of unplanned pregnancy and because females often distracts males during work.

> *I remember the supervisor was complaining. He had about five girls in that plant and all five fell pregnant. In addition, the moment you get pregnant in a mine or a technical field you have to be pulled off because the risk factors become more. Therefore, many people are refraining [to employ females] in the engineering sector because of that issue.* (Participant Q, MERSETA official)

> *Some arguments that employers put is that the moment there is a female who works on the shop floor there is an interruption with the production because you know how men behave. The female will be like a flower attracting bees. There is also pregnancy that is not well timed*. (Participant K, MERSETA official)

Furthermore, the findings from the MERSETA participants indicate that when manufacturing employers decide to train female apprentices it is only to increase their BEE score points and for compliance with the skills requirements, not necessarily because they want to train females.

I was working in a mine before and I think in that era they were trying to introduce many women in the artisan pool because obviously there was a request. In addition, I think there is a BEE score points you get as well for that but for many people it was not for BEE, they had to comply. (Participant Q, MERSETA official)

4.5 Race

According to the MERSETA SSP (2017, p. 16), the manufacturing sector does not reflect the demographics of South Africa. In MERSETA registered firms, 58 per cent of their firms' employees are African and almost a quarter, 23 per cent are White. Indians constitute 3 per cent and Coloureds constitute 9 per cent. The findings from the three manufacturing SMEs participants suggest that their firms enrol more blacks for apprenticeship and learnership training compared to other racial groups. The findings from the three manufacturing SME participants are similar to those of the MERSETA SSP report.

However, the findings from the MERSETA participates suggest that it is not always the case that manufacturing SMEs enrol more Africans than other racial groups in their apprenticeship and learnership programmes. They suggest that what motivate manufacturing SMEs to enrol Africans are reasons other than preference. White family-owned, manufacturing SMEs usually prefer employing and training people of the same race as themselves. When these firms employ black apprentices, it is only for BEE scorecards or compliance. The training delivery also differs between racial groups, for instance white apprentices receive better treatment during training compared to black apprentices. In addition, the geographical location of the firm determines which racial group dominates in the apprenticeship programme. If the firm is located in a rural area then majority of the apprentices will be African.

Race differs from one area to another. In my personal observation there are some SMEs that are owned by white males who would like to keep that because you would find that it is a family business and the son will be trained in that and automatically will take over from the father. The contributory thing is the triple BEE to say that if I train more blacks I will be able to meet my scorecard. However, not all the SMEs will be in that way. They will differ from one to another. Others might have the preferential to say whether they train or not as long as I keep transferring the skills to my family… so they train the whites. Even if there are opportunities, for example, they have three or four apprentices. He can have three whites and one black but the quality that the black apprentice will be getting will be different from that of the white apprentice. Therefore, he will be like a glorified labourer in there. (Participant J, MERSETA official)

> *Yes [manufacturing SMEs enrol black apprentices] because they need to comply. Some SMEs would recruit African male apprentices because they have a tender. I remember one of the company's went in the North West to get their tender and after they got the tender one of the conditions to get a tender was that you must train the black youth in that community. The SME enrolled the black apprentices but as soon as the employer's contract ends. The employer dismisses the apprentices before they complete the apprenticeship programme. The learners come here to complain*. (Participant P, MERSETA official)

Furthermore, the findings from the MERSETA participants suggest that Africans dominate in firms because they are the majority of people searching for technical jobs.

> *It isdemographic. You find that black males are the ones looking for jobs and therefore they are the ones in high numbers and therefore are likely to be employed or trained*. (Participant K, MERSETA official)

According to MERSETA participants, the race disparity is a common problem in the manufacturing sector and SETAs are working on initiatives to address the problem.

> *[Race disparity] is a general problem. Race inequality is an issue that the government and SETAs are addressing. One of the things that we do as SETAs is also to drive and promote transformation*. (Participant N, MERSETA official)

4.6 Age

According to the MERSETA SSP (2017, p. 17), the manufacturing sector is dominated by young people. In 2017, around 40 per cent of all manufacturing employees were younger than 35 years and only 10 per cent were older than 55 years. The young workers under 35 years old dominate elementary occupations i.e. to a larger extent these are semi-skilled people with basic entry-level qualifications. Workers above 35 years dominate managerial and professional level occupations. The MERSETA SSP (2017) finding suggests a positive relationship between age, skill, and experience. The findings with regard to age discrepancy in the three manufacturing SMEs in Table 7 show that in Firm A, all their students are between the age of 18 and 26 years. In Firm B, 13 apprentices are between the age of 18 and 26 years and two are between the age of 26 and 35 years. In Firm C, all their students are between the age of 18 and 26 years. What

these findings show is that young adults dominate the apprenticeship and learnership programmes in all three manufacturing SMEs.

Table 7.The age group of students' enrolled in apprenticeship and learnership programmes

AGE GROUP	FIRM A	FIRM B	FIRM C
Less than 18 years old	0	0	0
Between 18 and 26 years old	5	13	6
Between 26 and 35 years old	0	2	0
Older than 35 years old	0	0	0

4.7 Apprenticeship and learnership trades and training programmes

According to the MERSETA SSP (2017, p. 38), the predominant trades in an apprenticeship programme include motor mechanic, diesel fuel injection mechanic, electrician (engineering), fitter and turner and millwright. The dominant learnership programmes include welding applications, automotive components, manufacturing and assembly, production technology, automotive repair and maintenance, and metals production. The findings with regard to the apprenticeship and learnership trade programmes in Table 8 show that Firm A specialises in electrical, fitting and turning trades; Firm B in fitting, electrical, and boiler making trades and production technology; and Firm C in the tool making trade.

Table 8.The apprenticeship and learnership occupations in the three manufacturing SMEs

FIRM	APPRENTICESHIP PROGRAMME	LEARNERSHIP PROGRAMME
FIRM A (manufacturer and supplier of construction, military steel and aluminum wheel rims)	Electrical and fitting and turning	
FIRM B (recycler of scrap automotive batteries, and other lead-bearing hazardous materials)	Fitting, electrical, and boiler making	Production technology
FIRM C (including but not limited to new mould designing, custom metal work and manufacturing and maintaining press tools)	Tool making	

4.7.1 Alternative training

According to the MERSETA SSP (2017, p. 40), manufacturing firms are also involved in other forms of training in addition to apprenticeship and learnership training. This alternative training involves supervisory and management training, formal training programmes such as Masters of Business Administration (MBA) programmes, and short courses and in-service training. The findings from the three manufacturing SMEs participants suggest that in addition to apprenticeship and learnership training, their firms do offer alternative training, especially in soft-skills.

> *Our apprentices do boiler making and plumbing. They do many things that are not exactly their work because they get the pressure off us and keep everything running*. (Participant B, Apprentice trainer)

The training for learners is not only limited to the technical component but it also involves soft skills. (Participant D, Human resource manager)

These three manufacturing SMEs offer alternative training to develop the skills of their current workforce, empower young people, and save on costs.

I would say [alternative training] is very important because now we are building a new factory and [apprentices] are assisting there with the building of the factory. Whereas we would have to get someone from outside and this would cost us a lot of money. (Participant B, Apprentice trainer)

When you train, you reap the benefits at the end as the employer, while empowering the young person. So you found out that when [apprentices] come out of here they are not only trade tested and deemed to be fit artisans but are also sharp in other skills. (Participant D, Human resource manager)

4.8 The place of training

The findings with regard to the place where apprenticeship and learnership training takes places in the three manufacturing SMEs in Table 9 shows that apprenticeship and learnership training takes place in the workplace and TVET Colleges.

Table 9.The place of training

PLACE OF TRAINING	FIRM A	FIRM B	FIRM C
In-house training	**X**	**X**	**X**
TVET College	**X**	**X**	**X**

The three manufacturing SMEs have special arrangements with TVET Colleges for the selection and recruitment of students into their apprenticeship and learnership programmes.

We will send [apprentices] to [TVET Colleges] to do the theoretical part. We receive feedback from the college because the college sends the [grades] directly to us. In addition, if the college feels there is a problem with the student, it phones and says we think there is a problem that needs to be addressed then as an SME, we address it. Moreover, we have arranged with the college that if they have identified a student that does well in mathematics and science then they should let us know because those are the people we will target to put into the apprenticeship programme. (Participant G, Human resource manager)

[The TVET College] gives us a shortlist [of students'] who we then interview and we decide from there [who to enrol into the apprentice programme]. (Participant C, Human resource manager)

According to the MERSETA SSP (2017, p. 39), traditionally the TVET College programmes in the engineering field have been designed for industries that use manual and low skilled labour. The MERSETA Metal Chamber reports concerns about the quality of graduates coming from the TVET Colleges, the relevance and updating of the college curriculum, the lack of practical work exposure for their students, and lecturers who lack industry expertise (MERSETA SSP, 2017, p. 42). According to the MERSETA SSP (2017, p. 39), the limited and narrowed engineering programmes in TVET Colleges have negatively affected the way in which higher education institutions, such as universities view TVET College qualifications. Moreover, because South African laws do not force companies to train, employers have been reluctant to take on TVET College graduates.

4.9 The apprenticeship and learnership qualification duration

An apprenticeship programme has duration of 3 to 4 years and a learnership a duration of 12 or 18 months. The formal learnership agreement is signed by the learner, employer, and training provider. An apprenticeship contract is signed between the apprentice and a single employer for the duration of an apprenticeship programme (SASSETA, 2014). The findings with regard to the apprenticeship and learnership programme duration in the three manufacturing SMEs indicate that their students sometimes fail to complete their qualifications in due time because they either fail to pass their trade tests, drop out, and struggle with theoretical training in college.

[Apprenticeship training] is capability based, and if students are not ready to be trained, they will not complete. You have to be ready to complete. (Participant F, Apprentice trainer)

There are those [students'] that went over 3 years [to complete their apprenticeship programme] because they had difficulty with the theoretical training at the college, for example the N courses. (Participant E, Apprentice trainer)

There has only been one person that could not pass their trade test. Nevertheless, all of our people except this one have qualified in time. (Participant G, Human resource manager)

The findings from the MERSETA participants suggest that apprentices do not complete their qualification on time because of numerous reasons, such as firm retrenchment or when a student get dismissed by the employer.

> *The high rates of retrenchment or absconding in the SMEs are some of the challenges and the dismissing and firing of the apprentices by the companies. In these companies, an apprentice is fired if they do a slight mistake. One of the learners came at work and when he arrived there, they said to him they did not have work for him that day. Therefore, he should go and clean the stairs. He went and cleaned the stairs and the employer told him he does not listen and he was aggressive to the learner. When the learner reported the matter, he was fired from the company*. (Participant P, MERSETA official)

4.10 The workplace training constraints and challenges

The findings with regard to the workplace training constraints and challenges in the three manufacturing SMEs relate to lack of funding, negative attitude from students during training, the failure of students to grasp the theoretical component of training, low mathematics and science grades, absenteeism/dropouts and when the students struggle to operate the machines. The following quotes illustrate the general points made and are then explored in more detail.

> *[Technical skilled people] are either scarce or they come from mines where they were being paid too much so you cannot afford them*. (Participant D, Human resource manager)

> *[The individuals] pulled out from the firm's production were good [with practical training] but with theoretically technical training they were lacking in that aspect and they struggled a lot*. (Participant E, Apprentice trainer)

> *There are challenges, whereby, you find that an [apprentice] might not understand the task… that what would hold them back… even their attitude. If the [apprentice] does not have a positive attitude towards the trade and does not listen precisely to what he is being told and what he needs to be done it becomes a challenge to train them*. (Participant F, Apprentice trainer)

> *Yes, we do [have challenges], firstly [some students struggle with] the use of tools we have [in the firm], for example some struggle to operate the machines*. (Participant H, Apprentice trainer)

> *Yep! [We have challenges]. Therefore, what we have found is that when we take an apprentice who cannot grasp mathematics and science [the firm] struggles throughout the apprenticeship programme with them*. (Participant G, Human resource manager)

Yes! [We have challenges]. I have to tell you that the last apprentices that we employed we got through the FET College and through a training centre. Initially, we had many problems and we have had huge concerns about absenteeism. (Participant C, Human resource manager)

4.10.1 Student attitude

The findings from the MERSETA participants indicate that the problem of student attitude is widespread throughout the manufacturing sector and not solemnly experienced by SMEs alone. However, compared to large firms SMEs often lack finances to invest in diagnostic assessments to measure learner attitude for enrolment selection purposes. This then put the SMEs at risk of selecting incompetent students.

[The negative attitude] is a general problem but often big firms deal with that problem by putting money to sort of do diagnostic assessments, where they also measure or psychometric and whatever assessment that they do to check the attitudes of the learner. Moreover, SMEs will not have that luxury of time or resources to do those proper assessments of evaluations, and selections. (Participant K, MERSETA official)

The findings from the MERSETA participants suggest that students develop negative attitudes when the employer does not meet their expectation and when they lose interest in the training

That is very true [some students have a negative attitude]. In the previous projects that we have run, our experiences will be exactly that. Firstly, I think the main thing would be the socio-economic crises that we are facing in South Africa. You would get people that are very poor and that cannot be choosey [in terms of career], as a result, they do not have vocational identity. You find that the student does not even relate to the trade anymore. The negative attitude [also] comes in when apprentices realise the trade is different from what they had previously expected. With so many companies that we have dealt with in our previous projects that is very common. (Participant L, MERSETA official)

Students may choose a trade based on the opportunities it has or because of monetary reasons and not necessarily because they are driven by passion. Therefore, students lack both the motivation and career guidance.

You find that many young people are taking careers that do not really mean much to them. For them it is just a job opportunity or because they know the end, result is money. You will end up with problems like [the negative attitude]. I put the blame of lack of career guidance on the individual [student]. (Participant Q – MERSETA official)

One finding from the MERSETA participant suggested that it is not always necessarily true that students develop a bad attitude because they lack motivation and career guidance. Sometimes the trainers themselves are underqualified and inexperienced to teach. Some students experience racial discrimination and suffer ill-treatment by their mentors. Ill-treatment often happens when the mentors feel intimidated by a highly qualified student.

I agree [some students' have negative attitude towards the trades] but on certain conditions. My first condition is that most of the students' who are from the college, especially those who have N6 or N5 and so on are being ill-treated by the company or the mentor, specifically by white men who are not qualified and who don't have those types of qualifications. Therefore, when these learners come there they are a threat to trainers. So that is why I don't agree with SMEs that those learners are not prepared to learn, because those learners are there to learn and they are being mistreated by people who are going to be used as their mentors. In addition, people who are mentors do not even have skills to be mentors and the skills to treat a learner. Therefore, some of our learners, unlike in the past, they do not accept such a treatment. (Participant P, MERSETA official)

4.10.2 Dropouts

According to the MERSETA SSP (2017, p. 42), there is a noticeable increase in the dropout rate of students enrolled in technical fields in higher education institutions. The predominant causes are low economic status, lack of financial resources, and the increase in education costs. The findings from the MERSETA participants suggest that the problem of dropouts is across all educational contexts and not limited to apprenticeship and learnership programmes in manufacturing SMEs. Numerous factors cause students to dropout, such as when they are de-motivated during training. Student de-motivation happens when a firm lacks proper training facilities and a training plan.

Yes. [Students' dropout] because there is no motivation at all and because the companies that do not know how to motivate learners. Companies do not even support the learners during the training. The majority of the companies do not have a plan to train apprentices, even the big companies… they do not

have a training plan for learners… they just train learners haphazardly. You find yourself as an apprentice in a company doing labour work, which de-motivates the learner. A proper training plan stimulates the learners and motivates them. (Participant P, MERSETA official)

Similarly, absenteeism happens when students develop a lack of interest in the trade due to poor career guidance. Sometimes apprentices enrol in certain trades for financial reasons and not because of passion.

I mean the reason why students' would be absent from something means they have interest in something else and they are rather forced to do something. Remember also that our poverty level is increasing as well. Therefore, something that is becoming very peculiar along the way is that youngsters are getting into trades because there is that element of the stipend and unfortunately, most youngsters have many things in their shoulders in terms of family responsibility when they come from disadvantaged families. (Participant Q, MERSETA official)

4.10.3 Career guidance

The OECD report defines career guidance as "services and activities intended to assist individuals, of any age and at any point throughout their lives, to make educational, training and occupational choices and to manage their careers" (2004, p. 10). The findings with regard to career guidance from MERSETA participants suggest that poor career guidance is a widespread problem that starts from basic education level. The findings mentioned above suggest that many factors, including lack of proper career guidance result in student dropout and absenteeism. In attempt to address the lack of career guidance and lecturer underdevelopment, MERSETA is collaborating with TVET Colleges across different educational spectrums to conduct road shows in schools. In addition, they are offering postgraduate bursaries to TVET College lecturers.

That is really the truth. [Students lack career guidance] but the problem is bigger than that. It is not a problem that can be addressed by the SETA and TVET Colleges alone but can be addressed by maybe all the partners or stakeholders in skills development. All the stakeholders should come together and participate in skills development. Remember there are different issues of career guidance and career awareness and so forth, but the problem starts at the primary level. The same problem that SMEs have, the TVET Colleges will tell you they have. That is not something that you can address overnight because it starts with the nature of the curriculum at the primary level and it proceeds as such. The lecturers themselves at the TVET College are not technically inclined. Hence, the problem is much bigger. (Participant J, MERSETA official)

We offer career guidance to schools not to the employer. We run career guidance events throughout high schools and part of the problem is that in some cases the TVET College students' are not trained by people who come from the industry. (Participant K, MERSETA official)

Certainly that is true [students lack career guidance]. It is a general concern given the nature of our education system. You get kids from high schools not even knowing when they complete their matriculation whereto from there. Some per chance say I can go to a TVET college and I can pursue a trade qualification and be employed, if I fail to go to university. Yes career awareness opportunities have been lacking for some time but this is one strong emphasis that we as MERSETA, and probably even in other SETAs we are venturing into. We are collaborating with technical schools and availing ourselves during TVET college and university open days. We also got partnership arrangements with TVET colleges for lecturer development programmes. (Participant N, MERSETA official)

MERSETA participants believe that employers should be actively involved in providing career guidance to students instead of relying on TVET Colleges.

SMEs are giving the college their responsibility but then that is what we, as SETAs need to do. We need to go at schools and ensure that learners are becoming aware of the trades. It is actually a problem in the whole country. Learners do not know about trades. Maybe colleges should include the component of career guidance and also expose these learners to different companies as part of their learning but in terms of recruiting, SMEs must ensure that they recruiting the right people. (Participant O, MERSETA official)

4.10.4 Mathematics and Science

According to the MERSETA SSP (2017, p. 41), the number of learners graduating with mathematics and physical science as subjects in schools has decreased over the years. This is negatively affecting the availability of engineering skills for the national economy and the manufacturing sector. The average pass rate for mathematics has decreased by 8 per cent and physical science has decreased by 5.4 per cent since 2013. The low mathematics and science pass rates combined with the absence of any clear improvements in the future raises serious concerns for the manufacturing sector, since this limits the higher education system from increasing access to high skilled engineering occupational qualifications (MERSETA SSP, 2017, p. 42). The findings from the MERSETA participants suggest that students' academic inability and poor time management skills result in poor mathematics and science grades.

MERSETA participants recommend that the manufacturing SMEs should start a strict assessment processes before enrolling students for apprenticeship and learnership programmes. The manufacturing SMEs should put students under a probation period before hiring them to avoid failure rate.

> *If this is the medium size business, [experiencing increased failure rates during apprenticeship training because of students' with low mathematics and science grades], then their recruitment and selection process needs to be looked at and they must not blame the students'. This problem [of low mathematics and science grades] is across the entire learning context. The issue of poor maths and science grades links to academic ability but that does not say anything about the selection of the students and the criteria to fall into a particular workplace. For me, I would rather turn that around by saying that businesses need to be more specific about their selection and recruitment and in terms of what is the characteristic and the profile of the students' that will fit their businesses, instead of blaming the TVET colleges*. (Participant M, MERSETA official)

> *The failure according to me, I have been interviewing [manufacturing SMEs] and even the learners themselves; it is the issue of time. Students' arrive home tired and must go to learn. That is why it is hard for them to grasp that particular knowledge, especially the N studies. The companies must do an assessment of learners in order to see if they are going to cope. It is more or less on the company side. What type of learners they are recruiting and their recruitment policies. What SMEs can also do to prevent the failure rate is to provide the learners three months' probation before they can actually take them.* (Participant O, MERSETA official)

The findings from the three manufacturing SMEs indicate for the future, as SMEs they are planning to enrol strictly the students with only good grades for their apprenticeship and learnership programmes. In addition, they are also planning to re-train their current struggling students and provide them with more support.

> *So going forward we are strict on what we are doing. An apprentice must have matric and not just your matric, maths and science, and N3*. (Participant D, Human resource manager)

> *As a firm, you just have to keep on going and keep on instilling discipline on your students. Keep on talking to them and inspiring them to work as per book*. (Participant F, Apprentice trainer)

4.11 Training expenditure and government incentives

The findings with regard to the training expenditure and government incentives in the three manufacturing SMEs suggest that training costs are too high. In their collaboration with MERSETA, the three manufacturing SMEs get access to government incentives and funding. However, they indicate that the funding is not enough to cover the training they wish to do. As a result, these three manufacturing SMEs use their own resources and income to cover the gap in training costs, which is often a strain to their business.

> *Yes! [We do have a training budget] but mostly that money is the money we receive from the SETA for now, Next year we will have a different budget for [training] because the money we get from the SETA is just not enough for the necessary training that we need*. (Participant C, Human resource manager)

> *Look we apply [for government funding] because there is money that goes into a SETA and we fall under MERSETA. Therefore, you will apply for discretionary grants but usually it is not enough and we are not concentrating on that money alone*. (Participant D, Human resource manager)

Firm C, for instance indicates that their training budget prioritises apprenticeship training and that all along their apprenticeship training has been self-funded. The firm has only recently collaborated with MERSETA for government funding.

> *We have a budget for what we spend on training and probably 90 per cent of our training budget is for apprentices. We will be receiving government grants but it is the first time we have really done that since we have never asked the government to pay us and we have never claimed on our skills development levy.* (Participant G, Human resource manager)

The three manufacturing SMEs believe that increased access to government funding will motivate them to train more apprentices and become active in workplace training.

> *Definitely [the government incentives should be made effective for SMEs to provide more training] because if you look at the number of kids that stay home because they don't have that advantage of funds to go to school… if you have that money you would help so many kids.* (Participant D, Human resource manager)

> *Our apprentices receive a proper wage and we pay them for their qualifications, training, and trade test. All of that costs a lot of money and I think if the government funded more of that and made the government*

grants more accessible then I think, we would be able to train more people. (Participant G, Human resource manager)

Similarly, the findings from the MERSETA participants indicate that indeed manufacturing SMEs experience financial constraints, even when government funding is available. The findings suggest that government funding fails to cater for the training needs of manufacturing SMEs because it is not always readily available. Government funding prioritises large and developed companies rather than small firms. In addition, the absence of dedicated training staff and skill development facilitators in manufacturing SMEs often limits their access to government funding.

I agree [that manufacturing SMEs lack funding] because government funding is not always enough to cater for the manufacturing SMEs training needs. SMEs do not have a dedicated training unit and as such, the funding is not always enough. Moreover, the funding of the SETA sometimes, like the discretionary grants does not always cater for them. It is not readily available for them; the focus is more on developed companies. As much as there can be some assistance, overall the funding is not enough… in addition, SMEs do not have dedicated skill development facilitators that can engage with the SETAs, liaise, and network in relation to training needs. (Participant J, MERSETA official)

Furthermore, the findings from the MERSETA participants suggest that the issue of funding in the manufacturing sector is not only limited to SMEs but also large firms. In addition, manufacturing SMEs that experience funding constraints sometimes lack awareness and information about the available government incentives. Others fail to get access to government funding because they are not involved in workplace training and do not know the rules and regulations of applying for skills grants. Moreover, manufacturing SMEs with low annual profits often avoid applying for government incentives because they believe it is not worth the time and effort. Some manufacturing SMEs lack safe and quipped training environments, and qualified or experienced owners, and therefore forfeit the chance to qualify for training incentives.

You find that someone who is not qualified owns a business and therefore they end up not having the capacity to meet the requirements to receive funds. (Participant K, MERSETA official)

The issue with funding with SMEs is that the majority of them do not know how to complete the required documents that would allow them to get funding and some do not have the skills development facilitators to facilitate the completely training application for grants. Some you will find that they are not participating in workplace training and so they are not getting grants for training. The second element is that when the SME income or turnover is very low the levy that they pay is very low, as a result, they would argue it is not worth the effort to go through the application process for grants and therefore will not get grants. Some will not get grants because of lack of capacity, for example, some SMEs will not get workplace approval because a person without qualifications would own them. (Participant K, MERSETA official)

The funding is there from MERSETA but the only thing I mostly get from small companies is the lack of knowledge on how to access funding from MERSETA, for example, SMEs normally do not have a big human resource department where they can have a trained SDF who can coordinate and liaise between their firm and the SETAs. (Participant O, MERSETA official)

The [manufacturing SMEs] that you have interviewed have fairly covered all the challenges that are being experienced [by manufacturing SMEs]. Generally, the one specific issue is of their capacity with the provision of training that is something that is not their focus. (Participant J, MERSETA official)

In addition, the findings from the MERSETA participants suggest that even when manufacturing SMEs are aware of government incentives they voluntarily choose not to apply for funding. The reason for this is that manufacturing SMEs perceive the funding administrative process to be time consuming. Other manufacturing SMEs avoid workplace training because they fear poaching.

Even though funding is there, small companies are complaining about poaching, for example that after training people will leave and go to bigger companies. In addition, small companies complain about time wasting during the funding application process. (Participant O, MERSETA official)

The attitude small companies got it is that they are paying the skills levy as part of a tax and that they seem not much interested in training. When you explain to them [about workplace training] they tell you they are going to train a person and lose him after training. That is what I normally get from small companies. (Participant O, MERSETA official)

4.12 Manufacturing SMEs in relation to large manufacturing firms

According to the MERSETA SSP (2017, p. 12), SMEs dominate the manufacturing sector in terms of size, while the key players of employment are large enterprises. Large enterprises in the sector accounted for 69 per cent employment in the first quarter of 2017/2018, while SMEs accounted for just 31 per cent. However, despite SMEs low employment contribution they continue to significantly contribute to the South African economic growth and development through increased investments and exports growth (MERSETA SSP, 2017, p. 6).

4.12.1 The trainer and trainee relationship

The findings with regard to the trainer and trainee relationship in the three manufacturing SMEs suggest that the trainer and trainee relationship is effective in small firms and compromised in large enterprises because of the high number of students' enrolled for training.

> *I would say there is more individual contact [in manufacturing SMEs] than in large firms. Moreover, trainers can provide better assistance and help apprentices to improve themselves. In a large company, it is quite difficult because the numbers are greater and you cannot really have that individual contact.* (Participant A, Apprentice trainer)

The findings from the three manufacturing SMEs participants suggest that their firms encourage students to work independently, ask questions, make mistakes, and be creative. This then provides students with agency and independence to work on their own and effectively get involved in problem solving during training.

> *That is what we are training them to do [to work independently and be flexible]. A training manual is just there for background in my opinion. It teaches you the basics. If you are an individual that has the inward drive and a passion for your job, for instance, I have one person here when he does a breakdown on a machine I leave him and he has to battle it out. Every now and then he comes to me and says I do not get it right and I say to him go back and start over. That teaches him to work independently. He uses all the knowledge that he gained in the training centre with his own initiative to overcome the problem*. (Participant A, Apprentice trainer)

In order to see the intellect of somebody else you teach him and let him do it independently. If I say that to him I want to cut this thing this way, he is going say to me no what if we cut it this way. If I can see that this is a good idea, we are going to go for it. (Participant H, Apprentice trainer)

In training when you are fault find, you have to be creative. You cannot just go as per book. We allow our apprentices to think rather than being spoon-fed. (Participant F, Apprentice trainer)

The MERSETA participants believe that the relationship between trainer and trainee during training is not as simple as the three manufacturing SME participants make it to sound. In fact, some trainers withhold knowledge during training and others struggle to impart knowledge.

You may find that there are some people who caught in an era where they do not want to share knowledge and so now you are forced to have the wrong person providing training and the right person might be there but he does not want to share knowledge. In some instances, you may have some trainers with knowledge but it does not necessarily mean they can part off the knowledge to someone else. (Participant Q, MERSETA official)

4.12.2 Skills development facilitators and training facilities

The findings from the three manufacturing SMEs participants indicates that their firms lack effective, dedicated, and formal skills development facilitators; and quality training facilities that enable successful training implementation and execution found in large firms.

I would not know [how large firms operate] but large firms have dedicated training officers that deal with training the apprentices. Here in our firm we do not have a training officer. (Participant E, Apprentice trainer)

In my opinion, the large firms normally have a dedicated training school, big places but smaller companies they got hands on training. (Participant I, Apprentice trainer)

The findings from the MERSETA participants suggest funding constraints, the inability of manufacturing SMEs to calculate their return on training investments and their failure to allocate a proper financial budget causes many of their training challenges.

Large companies are well better organised because they have a financial budget and they know how to calculate their return on investment. (Participant K, MERSETA official)

Generally, a small company will not have a training centre and even ten apprentices at a time. Therefore, you will get a small company not having a training department. You might even get that it is the owner or the wife who might be doing both the financial, payroll and the admin… all of that being done by one person. (Participant L, MERSETA official)

SMEs are running a very tight business that does not make big profits. Therefore, they do not have the investment to enhance their equipment to allow them to afford proper training facilities. SMEs often misunderstand the concept of investing in training because they base the basis of their business on what services they offer and what money they make out of it. All these other training issues like financial management they have to outsource because it is not their core business. (Participant K, MERSETA official)

For people to train in the workplace there is a whole workplace approval processes, specifically in the artisan context and some small businesses do not have full time employed people to provide training because they are costly. (Participant M, MERSETA official)

The findings from the three manufacturing SMEs participants suggest that large firms have easy access to government incentives because of the BEE scorecard points.

The big difference here is the amounts of money large firms have in their bank accounts. Large companies can afford to employ learners and they use training to validate their BEE scorecard. (Participant G, Human resource manager)

I think large firms get more money from the SETAs to do training. Secondly, they are better equipped and have better skills individuals than what the smaller companies can afford. Moreover, obviously in all of this the BEE comes in. Many bigger companies very much depend on their BEE scorecard and then you have to get good skills points because you get your taxes incentives as well. (Participant C, Human resource manager)

Similarly, the findings from the MERSETA participants imply that indeed BEE scorecard points influence the level of government funding a firm receives. However, what determines whether a firm receives funding is largely depended on the amount of skills levy the firm pays.

SMEs in our sector are predominantly white owned and they are like a family business. They cannot have someone who is dedicated to look at their BEE scorecard and so forth. That remains a challenge because that is another way of accessing government funding. (Participant J, MERSETA official)

Ido not think that is true [that large firms train for BEE score points]. Big companies will get more money because they contribute more to skills training and SMEs will get fewer levies because they contribute less to training. In addition, in our grants regulations we look at how much money we receive from a company as a skills levy contributor. (Participant K, MERSETA official)

4.13 Partnership

Partnerships are significant in that they create and strengthening the skills development interventions and cooperation between the key players. According to the MERSETA SSP (2017, p. 47), the MERSETA has collaborated with employers, the government, and the higher education institutions to achieve it strategic objectives and deliver services to its stakeholders and learner beneficiaries. Through such partnerships, the MERSETA has established and implemented skills development initiatives that aim to revitalise technical-vocational education and training, while raising lecturer and trainer competence to provide work relevant education and skills development. The findings from the MERSETA participants' suggest that in practice the partnership between SETAs, employers, and TVET College are weak and face serious challenges. These challenges involve lack of cooperation between partners and the unwillingness of employers and TVET Colleges to participate in SETA project implementations.

Currently, there is some improvement [in the partnerships] but it is not where it should be. There is still a room for improvement, and in some instances, it is a theme" and "we" and that "we" are doing the right thing and "they" do not want to support us, or "we" are supporting them but "they" do not provide us with quality people. They are more interventions now that pushes the SETAs and companies to start working together. (Participant J, MERSETA official)

[The partnership] is not that good because part of the problem is that even in our engagement with the employers you will often find that the participation of SMEs is limited and that they barely participate in our meetings. We try to reach out to them but they do not have capacity but the client liaison officers are there to support the SMEs and we meeting the targets. (Participant K, MERSETA official)

They are many difficulties. We once had the project with the TVET College and the success rate of students' was very low. The TVET Colleges in terms of the trade do not have people with trades and they only have lecturers who have done N studies. In addition, that is why we have lecturer development

programmes. The other thing is the issue of resources in terms of the projects. The people in TVET College project departments do not have knowledge about the SETAs and training and they have only done teaching. Therefore, they battle in terms of understanding on how SETAs work but we are helping them in bridging that particular gap. That is why, in MERSETA, we have TVET projects where we fund colleges to place learners in companies, and we facilitate that process. (Participant O, MERSETA official)

To ensure that the success of workplace training in the manufacturing sector, the MERSETA is promoting and implementing project management practices, like clear project conceptualisation, project finance management, project risk management and project time management (MERSETA SSP, 2017, p. 53). The findings indicate that the MERSETA is developing more effective and efficient strategies to improve and sustain workplace training and skills development partnerships.

[We are decreasing partnership challenges] by categorising companies so that we ensure that even the small companies get the piece of the pie in terms of the grants provided they comply. (Participant K, MERSETA official)

The strategic that one would suggest is that of resource sharing through the support of the SETAs and the government, for Instance, 3 to 5 SMEs can have at least one Skills Development Facilitator to assist them and also the situation where they can have someone who can be able to monitor them. The SETAs can also strengthen the monitoring and evaluation because funding does not cover everything. Career awareness can be addressed not only by the SETAs but must start at the government level i.e. the curriculum and work exposure not even at TVET level but as early lower grades. Moreover, we need to start professionalising our technical fields. (Participant J, MERSETA official)

What we can do as SETAs according to what I've seen is to have more workshops with these companies and to have more SDFs training, maybe four times a year we can have the workshops according to areas. Sometimes you invite these small companies and they do not even come and say they are quite busy. (Participant O, MERSETA official)

4.14Conclusion

This chapter provided the findings of the study. The findings are outlined according to themes identified in the data. The major findings are that there are numerous barriers to workplace training in the three manufacturing SMEs selected for the study. The barriers to workplace

training are lack of funding trainer and trainee relationships, low mathematics and science grades, learner attitude, and under-qualified and inexperienced trainers. In addition, the findings suggest that there is a disconnection between the SETAs and the employers in terms of information and communication. Moreover, there are age, gender, and racial inequalities in apprenticeship training. Chapter Five discusses these barriers in more depth.

5 DISCUSSION

This study aimed to understand the barriers to workplace training in manufacturing SMEs by exploring the views of HR managers and training supervisors in three manufacturing SMEs, skills development practitioners in the MERSETA. This section of the report aims to answer

the main question of the study: what are the barriers to workplace training in manufacturing SMEs?

5.1 Funding

Constraints faced by the three manufacturing SMEs

The findings of the study suggest that several factors motivate the three manufacturing SMEs to participate in workplace training. These factors are:

- Employer perception on returns to training investments
- Government incentives
- Meeting skills demand
- Saving on recruitment costs
- Increasing worker productivity, and
- Contributing to community development

Lack of funding is a serious threat to workplace training in these manufacturing SMEs. The three manufacturing SMEs raise concerns about how lack of government funding prevents them from being active players in skills development. This could explain why these SMEs enrol a small number of apprentices and learners in their training programmes. This finding further suggests that the three manufacturing SMEs put into training more beyond than what they can claim back financially. It is also reported that training is costly to them. The findings coincide with the literature that claims lack of financial resources as a major obstacle for low training expenditures in South African SMEs (SEDA, 2016, p. 7; Sekhametsi, 2017, p. 71). According to Timmis (2017), government funding for SMEs is not enough to sustain their needs and SMEs are often dissatisfied with the level of support they receive from the government.

SETA Officials

The findings from skills development practitioners in the MERSETA indicate that government funding is less accessible to small firms compared to large firms. They indicate several factors that pose as barriers to manufacturing SMEs accessing government funds, such as:

- Absence of dedicated training officers and skills development facilitators

- Voluntarily not participating in workplace training
- Unsafe work and training environments
- Underqualified and inexperienced managers

These findings suggest that the failure of manufacturing SMEs in accessing government funding is a result of external factors and self-imposed factors. In support of these findings, the literature indicates that SME employers view the money they receive from the SETA discretionary and mandatory grants as not being worth the administrative burden. As a result, the majority of SMEs prefer not to engage in workplace training (Kraak et al., 2013, p. 5). Unfortunately, the perception that manufacturing SMEs voluntarily choose not to apply for government funding can result in the undermining and overlooking of their funding needs.

5.2 Apprenticeships and Learnerships

The findings from the study suggest that the three manufacturing SMEs prefer apprenticeship programmes to learnership programmes. According to skills development practitioners in the MERSETA, various factors determine the reasons why manufacturing SMEs prefer apprenticeships to learnerships. These factors are:

- The difference in apprenticeship and learnership programme structure
- The difference in the administration involved in the processing and implementing of the training programmes
- Employer's personal preference for apprenticeships, and
- Immediate skills demanded by the employer

These findings indicate that apprenticeship programmes are attractive to manufacturing SME employers mainly because of their structure and because they have less administrative paperwork. The findings further suggest that manufacturing SME employers do not have the capacity and the qualified people to administer the amount of paperwork that comes with learnerships. In addition, the findings suggest that manufacturing SME employers are often too busy and do not have time to go through the complex administration of learnerships. The findings further suggest learnerships could be failing to deliver the holistic, integrated and high-level competence for artisan trades that employers are looking for (Duncan, 2017, p. 5).

5.3 Age

The findings from the study indicate that the majority of pupils enrolled into the apprenticeship and learnership programmes in the three manufacturing SMEs are between the age of 18 and 26 years. These findings are consistent with the literature that states that young people dominate the intermediate-level skills and manual skills in the manufacturing sector (Lolwana, 2013, p. 53; Mukora, 2009, p. 219). Based on the MERSETA SSP (2017) findings, compared to older individuals in the sector, young people dominate semi-skilled work because they hold basic entry-level qualifications. These findings suggest a positive relationship between age, skill, and experience. In addition, they suggest a skewed age disparity in apprenticeship system. Furthermore, the findings suggest that three manufacturing SME employers prefer young people to old people in their apprenticeship and learnership programmes for reasons not covered by this study.

5.4 Gender

The findings from the study indicate that African males dominate the apprenticeship training in the three manufacturing SMEs. The views from the skills development practitioners in the MERSETA suggest that various factors contribute to gender disparity in the manufacturing factor, such as:

- The firm's field of work and expertise
- Health and safety
- Traditional stigmas and cultures held by manufacturing employers
- BEE scorecard points and compliance

These findings suggest that there is gender inequality in the apprenticeship programmes in the three manufacturing SMEs. They further suggest that the three manufacturing SMEs and the SETAs are very much aware of this social issue. Both participants indicate that certain factors make it impossible for manufacturing SMEs to enrol females in technical trades, especially because of factors that involve health and safety. This claim, however, does not take way that the manufacturing SMEs should build a more inclusive work environment that caters for female workers.

5.5 Race

The findings from the study indicate that the African race dominates the apprenticeship programmes in the three manufacturing SMEs. Accordingly, the findings from the skills development practitioners in the MERSETA suggest that numerous factors influence racial inequality in the manufacturing sector, such as:

- BEE scorecard points and compliance
- Population size i.e. African population dominates the job search for technical jobs
- SME geographical location, and
- The nature of the SME i.e. whether it is family-owned or not

In addition, the findings from the skills development practitioners in the MERSETA suggest that the treatment of learners during training is different based on their racial group. They believe that white apprentices receive better treatment during training compared to black apprentices.

Overall, age disparity, gender, and race inequality in the three manufacturing SMEs findings suggest that apprenticeship training perpetuates social and occupational inequality. A similar study by McGrath & Martins (2005) on training in very small and micro enterprises showed that fewer black people receive training compared to white people in the workplace. Moreover, women receive more training in administrative and secretarial occupations and less training in managerial and technical occupations. These findings suggest that racial disparity persist within occupation qualifications. In the apprenticeship system context, literature shows that embedded in the apprenticeship system are complex social structures that continue to affect negatively women and African people in the vocational education and training. It further shows that this history continues to shape the perceptions and values of the apprenticeship system in South Africa (Wedekind, 2003, p. 41). According to Wildschut (2016), for the South African economy to produce the right amount of skilled artisans the government, employers, and society must confront the history of the country by shifting the historical trends by providing more opportunities for young, black, and women artisans.

5.6 Student attitude

The findings from the study suggest that student attitude affects workplace training in the three manufacturing SMEs. Furthermore, the findings suggest that student attitude often determines how effective the relationship between the trainer and the trainee will be during training. A various factors can cause a student to develop a negative attitude during training, like:

- Employer fails to meet student expectations
- Training being delivered by underqualified and inexperienced trainers
- Student getting ill-treated by their trainers

The three manufacturing SMEs believe that the lack of career guidance is the main cause for negative student attitudes during training. Their views further suggest that TVET Colleges are to blame because they are the ones that produce these types of learners. Similarly, the findings from the skills development practitioners in the MERSETA indicate that the problem of student attitude is indeed evident in workplace training. It is widespread throughout the manufacturing sector and not limited to SMEs. Moreover, their views indicate that employers are as much to blame for lack of career guidance as are TVET Colleges. The skills development practitioners in the MERSETA suggest that employers should start investing in diagnostic assessments instruments that help improve their recruitment process.

Literature suggests that factors, like employee attitude, influence how effective training will be within the organisation and to what extent employees will utilise their capabilities to the success of the organisation (Katou, 2009). Skills training and development mediated by employee skills, employee attitudes, and training methods has in fact a greater effect on SME performance (Olatunle, Mukulu, & Orwa; 2015, p. 248).

5.7 Mathematics and Science

The findings from the study indicate that low mathematics and science grades affect workplace training in the three manufacturing SMEs. Students with low mathematics and science grades struggle in the apprenticeship programme. These students tend to struggle with the theoretical training in college and failing the trade test. The three manufacturing SMEs are shifting the blame to TVET Colleges. The skills development practitioners in the MERSETA suggest that the student's academic inability and poor time management skills are in fact the main reason

for the low mathematics and science grades. In addition, their views indicate that the three manufacturing SMEs must hold accountability for not having proper planning and strategies in place to address their training challenges.

These findings suggest that the student's academic background can determine the success of their transition from school to the world of work. Furthermore, it is clear that the three manufacturing SMEs are avoiding taking responsibility for the poor performance of their students by shifting the blame to TVET Colleges. According to McGrath & Akoojee (2009), the failure of Public FET colleges results from poor government strategies and policy implementations. They argue that the state frequently mismanages the vocational education and training system that then affects employers. McGrath & Akoojee (2009) believe then that private providers should receive as much prioritisation from the government as public providers. The reason for this is that private providers are actually doing a much better job in providing vocational education and training compared to public providers. Furthermore, employers are more willing to work with private providers compared to public providers.

Consequently, the findings from the study suggest the three manufacturing SMEs do not have the necessary tools and expertise to provide and support effective and successful workplace training. These findings coincide with the literature in that low mathematics and science attainment has a negative effect on technical skills supplied in the manufacturing sector (MERSETA SSP, 2017, p. 41). This limits the higher education system from increasing access to high skilled vocational education and training qualifications (MERSETA SSP, 2017, p. 42).

5.8 Employment

The findings from the study suggest that the three manufacturing SMEs see workplace training as having a positive impact in their employment growth and worker productivity. The findings further suggests that before hiring a qualified apprentice into a permanent position the three manufacturing SMEs look for certain qualities and ask themselves the following questions:

- Can the apprentice perform their work tasks effectively?
- Can the apprentice solve problems faster?
- How was the apprentice's attitude during training?
- How well did the apprentice perform at school?

The findings indicate that the three manufacturing SMEs believe they save on recruitment costs by employing their apprentices. They indicate that they hire the qualified apprentices at a lower wage. These findings suggest that the three manufacturing SMEs see the benefits of workplace training. This then coincide with the literature that workplace training can help meet employer skills demand, maintain workplace competitiveness and occupational competence, and can support an effective transition for students from school into employment (Billett, 2008, pp. 2–3). The findings are also consistence with the literature that claims workplace training helps employers to save on recruitment costs (Brunello & Medio, 2000, p. 3). However, the findings from the skills development practitioners in the MERSETA indicate that it is not always the case that manufacturing SMEs employ after workplace training. In fact, some SME employers only focus on training and less on employment. There seems then to be a SETA perception that some manufacturing SME employers benefit financially by training apprentices, but then choose not to employ afterwards. One can think of financial constraints and lack of resources as the major reasons for SMEs not employing apprentices after training. According to Van Rooyen et al. (2010), there are various factors that contribute to artisan retention in companies, and the most important factor being the remuneration package. They suggest that employers can identify the factors that help retain artisans after training and the needs that keep artisans satisfied by successfully managing artisan retention from an employee perspective and constant interaction between themselves and the employee.

Wildschut (2016) argues that the South African labour market lacks the necessary capacity to retain all the qualified artisans. She proposes that there is a need for a more in-depth study that aims to understand peoples' attitudes to vocational training and education occupations. The government should create a policy framework that addresses the artisan skills production more broadly by examining the job opportunities available to artisans.

6 CONCLUSION

In conclusion, this study aimed to identify barriers to workplace training in the manufacturing SMEs. The findings from the study suggest that there are numerous factors that pose as barriers to workplace training in the three manufacturing SMEs selected for the study.The findings from the three manufacturing SMEs suggest lack of financial support as a major barrier to their workplace training. The other workplace training barriers relate to student attitude, low mathematics, and science grades. The three manufacturing SMEs also blame the TVET College for producing incompetent graduates. The findings from the skills development practitioners in the MERSETA suggest that the barriers to workplace training the three manufacturing SMEs are more complex than they may seem. The apprenticeship system in the three manufacturing SMEs perpetuates social and occupational inequality by exclusion of Africans and women in technical education and training occupations. In addition, there seems to be a lack of collaboration and understanding between the MERSETA, the three manufacturing SMEs, and

learners. Both the MERSETA and the three manufacturing SMEs seem to be aware of this, for instance, employers do not always inform themselves about SETA funding opportunities and requirements. MERSETA also fails to reach out to SME employers effectively and maybe underestimates the difficulties experienced by these firms.

The sample size and small amount of data was the major limitation of this study. This study needed a larger sample to understand holistically the barriers to workplace training in the manufacturing SME and to be able to generalise beyond this sample. The suggestion for a future study with a similar research question is to have a bigger sample and use of a different methodology, preferably a mix-method approach. In addition, the researcher recommends research exploring the perceptions of learners on workplace training, the factors that hinder manufacturing SMEs from employing after training, the type of trainer and trainee relationship that exists in the workplace, and how the history of apprenticeships affects workplace training in individual enterprises.

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7 REFERENCE

Abrie, W., & Doussy, E. (2006). Tax compliance obstacles encountered by small and medium enterprises in South Africa. *Meditari Accountancy Research*, *14*(1), 1–13. https://doi.org/10.1108/10222529200600001

Allais, S. (2012). Will skills save us? Rethinking the relationships between vocational education, skills development policies, and social policy in South Africa. *International Journal of Educational Development*, *32*(5), 632–642. https://doi.org/10.1016/j.ijedudev.2012.01.001

Ballot, G., Fakhfakh, F., & Taymaz, E. (2006). Who benefits from training and R&D, the firm or the workers? *British Journal of Industrial Relations*, *44*(3), 473–495. https://doi.org/10.1111/j.1467-8543.2006.00509.x

Barnes, J., & Meadows, B. (2008). *On the brink? Skills demand and supply issues in the South African Automative components industry*. Retrieved from http://www.labour.gov.za/DOL/downloads/documents/research-documents/Automotive_DoL_Report.pdf

Barrett, A., & O'Connell, P., J. (2001). Does Training Generally Work? The Returns to In-Company Training. *Sage Publications, Inc, 54*(3), 647–662. https://doi.org/10.2307/2695995

Bartel, A., P. (2000). *Measuring the Employer's Return on Investments in Training: Evidence from the Literature*. *39*(3), 502–524. https://doi.org/10.1111/0019-8676.00178

Bell, T. (1995). Improving manufacturing performance in South Africa: a contrary view. *Transformation*, *1*(28), 1–35. https://doi.org/10.1.1.914.3144

Benner, C. (2002). *Work in the new economy: flexibility labour markets in Silicon Valley*. Oxford: Blackwell.

Berge, Z., L. (2008). Why it is so hard to evaluate training in the workplace. *Industrial and Commercial Training*, *40*(7), 390–395. https://doi.org/10.1108/00197850810912270

Berry, A., von Blottnitz, M., Cassim, R., Kesper, A., Rajaratnam, B., & van Seventer, D. E. (2002). *The economics of SMMES in South Africa: trade and industrial policy strategies*. Retrieved from Trade and industrial policy strategies (TIPS) website: www.tips.org.za/files/506.pdf

Beyene, A. (2002). Enhancing the competitiveness and productivity of Small and Medium Scale Enterprises (SMEs) in Africa: an analysis of differential roles of national governments through improved support services. *Africa Development*, *27*(3/4), 130–156.

Billett, S. (1994). Situated Learning: A Workplace Experience. *Australian Journal of Adult and Community Education*, *2*(34), 112–130.

Billett, S. (2004). Workplace participatory practices: Conceptualising workplaces as learning environments. *Journal of Workplace Learning*, *16*(6), 312–324. https://doi.org/10.1108/13665620410550295

Billett, S. (2008). Emerging perspectives on workplace learning. In S. Billett, C. Harteis, & A. Eteläpelto (Eds.), *Emerging Perspectives of Workplace Learning* (pp. 1–15). Rotterdam/ Taipei: Sense.

Blueprint Strategy & Policy. (2005). *Promotion of small and medium enterprises in the South African chemicals sector*. Retrieved from www.dti.gov.za/industrial_development/.../SME_Support_Chemicals_Final_Draft.pdf

Brink, A., Cant, M., & Ligthelm, A. (2003). Problems experienced by small businesses in South Africa. *A Paper for the Small Enterprise Association of Australia and New Zealand 16th Annual Conference*, 1–20. University of Ballarat, Ballarat, Australia: University of Ballarat.

Brunello, G., & Medio, A. (2000). *An Explanation of International Differences in Education and Workplace Training*. *114*, 1–17. Retrieved from http://hdl.handle.net/10419/20955

Chimucheka, T. (2013). *The Impact of Entrepreneurship Education on the Establishment and Survival of Small, Micro and Medium Enterprises (SMMEs)*. *4*(2).

Chinomona, R. (2013). Business owner's expertise, employee skills training and business performance: a small business perspective. *The Journal of Applied Business Research*, *29*(6), 1883–1896.

Collins, J., A., Greer, J., E., Kumar, V., S., McCalla, G., I., Meagher, P., & Tkatch, R. (1997). Inspectable User Models for Just-In-Time Workplace Training. In A. Jameson, C. Paris, & C. Tasso (Eds.), *User Modeling: Proceedings of the Sixth International Conference UM97* (pp. 327–337). Udine: CISM.

Cronje, G. J. de J., Du Toit, G. S., & Motlatla, M. D. C. (2001). *Introduction to business management*. Cape Town: Oxford University Press.

DHET. (2011). *National Skills Development Strategy III*. Retrieved from Department of Higher Education and Training website: www.dhet.gov.za/.../NSDS%20III%20Progress%20Report%20-%207%20October%20...

DHET. (2017). *The National Skills Development Plan*. Retrieved from Department of Higher Education and Training website: www.dhet.gov.za/.../12%20January%202018%20THE%20NATIONAL%20SKILLS%...

Dockery, A. M., Koshy, P., Stromback, T., & Ying, W. (1997). The cost of training apprentices in Australian firms. *Australian Bulletin of Labour*, *23*(4), 1–32.

DOL. (n.d.). *Sector Education and Training Authorities*. Retrieved from Department of Labour website: http://www.labour.gov.za/DOL/downloads/documents/useful-documents/skills-development-act/Useful%20Document%20-%20NSF%20-%20Sector%20Education%20and%20Training%20Authorities.pdf

Duncan, K. (2017). *Apprenticeships for youth employment*. South Africa: Centre for Development and Enterprise.

Dzansi, D. Y. (2004). *Social responsibility of SMMEs in rural communities*. (UnpublisehdDoctral Dissertation).University of Pretoria.

Fatoki, O. O., Olumuyiwa, O., & George, H. (2011). The Impact of Human, Social and Financial Capital on the Performance of Small and Medium-Sized Enterprises (SMEs) in South Africa. *Journal of Social Sciences*, *29*(3), 193–204.

Filipe, A.-S., & Karen, M. (2004, June). *Employee Training and Wage Compression in Britain*. *1197*. Retrieved from

http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.421.9812&rep=rep1&type=pdf

Gibb, A. (1997). Small firms' training and competitiveness. Building upon the small business as a learning organisation. *International Small Business Journal*, *15*(3), 13–29.

IFC. (2015). *Assessing private sector contributions to job creation and poverty reduction*. Retrieved from Internation Finance Corporation website: https://www.ifc.org/.../IFC_FULL+JOB+STUDY+REPORT_JAN2013_FINAL.pdf?...

Katou, A. A. (2009). The impact of human Resource development on organisational performance: test of a casual model. *Journal of Behavioural and Applied Management*, *1*(5), 335–356.

Kraak, A., Jewison, R., Pillay, P., Chidi, M., Bhagwan, N., & Makgolane, M. (2013). *Review of the current skills development system and recommendations towards the best model for delivering skills in the country*. (pp. 1–62). South Africa: Human Resource Development Council.

Lajoie, S., P., & Lesgold, A. (1989). Apprenticeship Training in the Workplace: Computer-Coached Practice Environment as a New Form of Apprenticeship. In F. Marshall J. & J. Psotka (Eds.), *Intelligent instruction by computer: Theory and practice* (pp. 15–36). New York: Taylor & Francis.

Lolwana, P. (2013). *Artisanal development without a clear demand: What about the public economy?*[Powerpoint Slides]. Retrieved from http://www.merseta.org.za/KnoRep/CONFERENCEPRESENTATIONS/Introducing%20Apprenticeship/Artisanal%20development%20without%20a%20clear%20demand%20what%20about%20the%20public%20economy.ppt.

Magableh, I., K., Kharabsheh, R., & Al-Zubi, K., A. (2011). Determinants and Impact of training: the case of SMEs in Jordan. *International Journal of Economics and Finance*, *3*(5), 104–116.

Mahembe, E. (2011). *Literature Review on Small and Medium Enterprises' Access to Credit and Support in South Africa* (pp. 1–91). South Africa: Underhill Corporate Solutions (UCS).

Maye, M. (2014). *Small Business in South Africa: What the Department of Small Business Development Can Do to Stimulate Growth*. *35*, 1–12. South Africa: South African Catholic Bishops Conference (Parliamentary Liaison Office).

McGrath, S., & Akoojee, S. (2009). *Vocational education and training for sustainability in South Africa: The role of public and private provision*. *29*(2), 149–156. https://doi.org/10.1016/j.ijedudev.2008.09.008

McGrath, S., & Martins, J. (2005). The VSME component of the National Skills Survey. In S. McGrath (Ed.), *Skills development in very small and micro enterprises* (pp. 31–52). Cape Town: HSRC Press.

merSETA. (2016). *Sector Skills Plan: promoting artisan development for employability*.

merSETA SSP. (2017). *The merSETA Sector Skills Plan 2017 - 2018: promoting artisan development for employability* (pp. 1–59).

Mosai, S. (2016). *The South African manufacturing landscape: 2017 - 2020*. Productivitysa presented at the South Africa. Retrieved from https://www.machinetoolsafrica.co.za/_downloads/presentation-sello.pdf

Mukora, J. (2009). Artisans. In J. Erasmus & M. Breier (Eds.), *Skills Shortages in South Africa: Case Studies of Key Professions* (pp. 219–245). South Africa: HSRC Press.

Nieman, G., & Neuwenhuizen, C. (2009). *Entrepreneurship: a South African perspective*. Pretoria: Van Schaik.

OECD. (2004). *Career Guidance: A handbook for policy makers*. European Communities.

OECD. (2005). Small and medium-sized enterprises (smes). Retrieved August 14, 2017, from Glossary of statistical terms website: https://stats.oecd.org/glossary/detail.asp?ID=3123

OECD. (2013). *OECD economic surveys South Africa*. Retrieved from www.oecd.org/eco/surveys/South-Africa-OECD-economic-survey-overview.pdf

Olatunle, M. A., Mukulu, E., & Orwa, G. (2015). Effects of Training and Development on the Performance of Small and Medium Textile Manufacturing Enterprises in Nigeria. *International Journal of Entrepreneurial Development, Education and Science Research*, *3*(2), 248–264.

Olawale, F., & Garwe, D. (2010). Obstacles to the growth of new SMEs in South Africa: A principal component analysis approach. *African Journal of Business Management, 4*(5), 729–738.

O'Regan, N., Stainer, L., & Sims, M. (2010). Training in SMEs and its relationship to profitability. *Internation Journal of Human Resources Development and Management*, *10*(2), 161–181.

Osterman, P., Kochan, T. A., Locke, R. M., & Piore, M. J. (2001). Reframing the debate. In *Working in America: A blueprint for the new labor market* (pp. 1–25). Cambridge, Massachusetts: The MIT Press.

Perks, S., & Smith, E., E. (2008). *Focused training programmes for solving growth problems of very small businesses*. 145–159.

Rogerson, C. M. (2000). Successful SMEs in South Africa: the case of clothing producers in the Witwatersrand. *Development Southern Africa*, *17*(5), 687–716.

Rogerson, C. M. (2008). Developing small tourism businesses in Southern Africa. *Botswana Society*, *39*(1), 23–34.

Rothmann, S., & Pieterse, J. (2007). Predictors of work-related well-being in sector education training authorities. *South African Journal of Economic and Management Sciences, 10*(3), 298–312.

Rule, P., & Vaughn, J. (2011). *Your guide to case study research*. Pretoria: Van Schaik.

SASSETA. (2014). *The difference between Learnerships and Apprenticeships programmes*. Retrieved from https://www.northlink.co.za/pdf/Learnerships_Apprenticeships.pdf

Sawaya, A. (1995). *Black manufacturing small and medium-sized enterprises in the Western Cape: an analysis of success factors* (Master of Commerce). University of Cape Town, Cape Town.

SEDA. (2016). *The small, medium and micro enterprise sector of South Africa*. Retrieved from Bureau for economic research website: www.seda.org.za/.../The%20Small,%20Medium%20and%20Micro%20Enterprise%20...

Sekhametsi, T. L. (2017). *The Factors Influencing SME Failure in South Africa*. University of Cape Town, South Africa.

Smith, P. J. (2003). Workplace Learning and Flexible Delivery. *Review of Educational Research, 73*(1), 53 – 88.

Steenkamp, F., & Bhorat, H. (2016). *The role of skills and education in predicting micro-enterprise performance* [Labour Market Intelligence Partnership (LMIP) report]. Retrieved from Human Sciences Research Council website: http://www.lmip.org.za/sites/default/files/documentfiles/The%20Role%20of%20Skills%20and%20Education%20Steenkamp.pdf

TBASA. (2017). SME enterprise. Retrieved August 14, 2017, from The banking association South Africa website: http://www.banking.org.za/what-we-do/sme/sme-enterprise

The Conference Board of Canada, Watt, D., & Kitagawa, K. (2009). *Workplace Learning in Small and Medium-sized Enterprises: Effective Practices for Improving Productivity and Competitiveness*. Retrieved from The Canadian Council on Learning (CCL) website: en.copian.ca/library/research/ccl/wplearning/wplearning.pdf

Thwala, W., D., & Phaladi, M., J. (2009). An exploratory study of problems facing small contractors in the North West province of South Africa. *African Journal of Business Management, 3*(10), 533–539. https://doi.org/10.5897/AJBM09.122

Tynjala, P. (2008). Perspectives into learning at the workplace. *Educational Research Review, 3*(1), 130 – 154. https://doi.org/10.1016/j.edurev.2007.12.001

Van Rooyen, L., Du Toit, D. H., Botha, E., & Rothmann, S. (2010). Artisan retention in an organisation in South Africa. *Journal of Human Resource Management*, *8*(1), 1–8. https://doi.org/10.4102/sajhrm.v8i1.300

van Wyk, B. (n.d.). *Researcher design and methods Part 1*. Post-graduate enrolment and throughput presented at the University of the Western Cape. Retrieved from https://www.google.co.za/url?sa=t&source=web&rct=j&url=https://www.uwc.ac.za/students/

Virtanen, A., Tynjälä, P., & Stenström, M.-L. (2008). Field-specific educational practices as a source for students' vocational identity formation. In S. Billett, C. Harteis, & A. Eteläpelto (Eds.), *Emerging Perspectives of Workplace Learning* (pp. 19–34). Rotterdam/ Taipei: Sense.

Wedekind, V. (2003). *Rearranging the furniture? Shifting discourses on skills development and apprenticeship in South Africa*. 34–46. South Africa: University of KwaZulu-Natal.

Wildschut, A. (2016). To produce artisans for the future South Africa should study its past. In *The conversation*. Retrieved from https://theconversation.com/to-produce-artisans-for-the-future-south-africa-should-study-its-past-64932

Yahya, A. Z., Othman, M. S., & Shamsuri, A. L. S. (2012). The Impact of Training on Small and Medium Enterprises (SMEs) Performance. *Journal of Professional Management*, *2*(1), 14–24.

8 APPENDIX

8.1 Appendix A: Qualitative interview schedule for the manufacturing SMEs

Opening

(***Establish Rapport***) [shake hands] My name is Sindiswa Msomi, a Masters student in the School of Education at the University of Witwatersrand. I am conducting a research study Training and skills development for technical employees (apprentices and learnerships) in the manufacturing Small, Medium-sized Enterprises (SMEs). I thought it would be a good idea to interview you because you are familiar with training and skills development in your firm.

(***Purpose***) I would like to ask you some questions about skills shortage, employees who receive training, forms of training and skills development in your firm, the workplace training challenges experienced by your firms, government incentives, and your overall opinion training and skills development for technical employees in the manufacturing Small & Medium-sized Enterprises (SMEs).

(***Motivation***) The hope is that this research study will add on the studies to better understand the role of South African manufacturing SME in skills development and employment.

(***Timeline***) The duration of the interview should take about 30 - 45 minutes and it has 26 semi-structured, open-ended questions, and with your permission an audio-recorder will be used during the

course of the interview and notes will be taken. Are you available to respond to some questions at this time?

Sub-research questions and interview questions

SUB-RESEARCH QUESTIONS	INTERVIEW QUESTIONS
A. HOW INVOLVED ARE MANUFACTURING SMEs IN APPRENTICESHIP AND LEARNERSHIP TRAINING?	1. What is the size of your firm i.e. total number of employees? 2. How many of your employees are apprentices and learners? 3. Does your firm fund apprenticeship and learnership training? 4. What are the apprenticeship and learnership programmes funded by your firm?
B. WHY DO MANUFACTURING SMES PROVIDE APPRENTICESHIP AND LEARNERSHIP TRAINING?	5. Why does your firm provide apprenticeship and learnership training? 6. Does your firm experience skills shortages? 7. Does your firm provide alternative training besides formal apprenticeship and learnership training? 8. How important are these alternative forms of training in your firm compared to formal apprenticeship and learnership training? 9. Why do you provide these alternative training programmes?
C. WHO RECEIVES TRAINING IN THE MANUFACTURING SMEs?	10. Are any of your employees currently receiving training beside apprentices and learners? 11. What is the typical estimated time to complete a full apprenticeship and learnership qualification? 12. Do apprentices and learners in your firm complete their training on time?

D. WHAT ARE THE APPRENTICESHIP AND LEARNERSHIP TRAINING CHALLENGES FACING MANUFACTURING SMES?	13. Are there any training challenges experienced by the firm? What are these challenges? 14. How is your firm addressing or rather planning to address the apprenticeship and learnership training challenges? 15. Does your firm have a workplace training budget? 16. Is your firm aware of any government incentives and using any government incentives for apprenticeship and learnership training? If not, why? 17. How can government incentives be made more effective for SMEs? What would assist you to train more people?
E. WHAT RELATIONSHIP IS THERE BETWEEN WORKPLACE TRAINING AND EMPLOYMENT IN MANUFACTURING SMES?	18. How has apprenticeship and learnership training impacted on your firm/employee productivity growth? 19. How many of your previous apprentices and learners have been employed into the firm after completing training? 20. Why do you employ these apprentices and learners? 21. For those that do not get employed, do you know where they go afterwards? Do you do follow ups? 22. Are there any concerns that you have identified not only in your organisation but with SME's in general, that remain a barrier to workplace training? 23. In your opinion, what factors do you believe can lead to successful workplace training in SMEs? 24. In your opinion what makes workplace training in SMEs different from workplace training in large firms? 25. How flexible is the training system in your firm? 26. Do you have further comments?

8.2 Appendix B: The mini-questionnaire for the manufacturing SMEs

A FIRM'S BACKGROUND QUESTIONNAIRE
PARTICIPANTS: TRAINING MENTORS/SUPERVISORS AND MANAGERS/SDFs

STUDENT NAME: SINDISWA MSOMI
STUDENT NUMBER: 902925

1. How many employees does your firm have?

2. How many of these employees are technical employees i.e. apprentices and learners?

Apprentices	
Learnerships	

3. What gender are apprentices in training?

	Number
Female	
Male	

4. What gender are learners in training?

	Number
Female	
Male	

5. What is the age range of apprentices receiving training?

	Number
Less than 18 years	
Between 18 and 26 years	
Between 26 and 35 years	
Older than 35 years	

6. What is the age range of learners receiving training?

	Number
Less than 18 years	
Between 18 and 26 years	
Between 26 and 35 years	
Older than 35 years	

7. Where does the workplace training take place?
(Tick all that are appropriate…)

In-house training	
FET College	
Other (please specify)	

8. What type of workplace training is funded by the firm?
(Please tick the appropriate answer…)

Formal (i.e. certified)	
Informal	

9. Has workplace training had a positive impact on your firm's productivity growth and employment?
(Please tick the appropriate answer…)

Yes	
No	

10. How many apprentices and learners who have received training have been employed by your firm at the end of full training in the last x years?

Apprentices	
Learnerships	

11. Has technical employees skills training impacted on your firm's productivity growth in the last x years?
    (Please tick the appropriate answer…)

Yes	
No	

12. How has technical employees skills training impacted on your firm's employment growth in the last x years?

(Please tick the appropriate answer…)

Poor	Average	Good	Very Good

13. How would you rate technical employees skills training in your firm?
    (Please tick the appropriate answer…)

Poor	Average	Good	Very Good

8.3 Appendix C: Transcribed manufacturing SMEs qualitative data

FIRM A

1. What is the size of your firm i.e. total number of employees?

Participant C: 130

2. How many of your employees are apprentices and learners?

Participant C: 5

3. Does your firm fund apprenticeship and learnership training?

Participant A: Yes

4. What are the apprenticeship and learnership programmes funded by your firm?

Participant A: Electrical and fitting programmes

Participant B: the firm does not fund these programmes. They are funded by Randwater and Fundi if I understand correctly. We do electrical, fitting, and turning and those are the only programmes we have

5. Why does your firm provide apprenticeship and learnership training?

Participant A: It does not cost the firm anything to train since they get funding from the SETA

Participant B: Well, I think it is for two reasons: one it is to help the company because if you do not have the learners or the apprentices you have to employ artisans, whereas when the apprentices get better skilled they can do the artisans job. In other words, the company saves money whilst it trains people

6. Does your firm experience skills shortages?

Participant A: Yes, skills shortage has always been a problem, generally because of the training received in technical colleges. The learners coming from FET colleges often lack career guidance. I would suggest that technical colleges have a tour in the firms just to see what the jobs entail

Participant B: I would say in our department, the engineering department we are a bit short staffed. We probably just need a bit more people to get work done faster. We are getting the work done but not at the speed, we should be getting it done. **[Probing question:** Has this always been a problem or it is recent?] It is just recently, after the retrenchment the firm has saved money hence we are short staffed

7. Does your firm provide alternative training besides formal apprenticeship and learnership training?

Participant A: No

Participant B: Yes, the learners sometimes do boiler making, plumbing, and sheet metal. In other words, our apprentices do many things that are not exactly their work to get the pressure off us and to help keep everything running

8. How important are these alternative forms of training in your firm compared to formal apprenticeship and learnership training?

Participant B: I would say very important because now we are building a new paint block and apprentices are assisting there with the building of the paint block, whereas we would have to get someone from outside which would cost us a lot of money

9. Why do you provide these alternative training programmes?

Participant B: To save the firm money

10. Are any of your employees currently receiving training beside apprentices and learners?

Participant B: There is one person, if I understand correctly, he is studying to become an engineer but he is not under our department now. [**Probing question:** What his race, age, and gender? Does he have any qualifications?] He is a 25 years old black male. I am not sure about any of his qualifications as I was not involved in the interviews

11. What is the typical estimated time to complete a full apprenticeship and learnership qualification?

Participant A: 38 Weeks

Participant B: I think its 3 and half years

12. Do apprentices and learners in your firm complete their training on time?

Participant A: Yes, but the previous ones could not complete due to the retrenchment

Participant B: Yes they do, mostly. [**Probing question:** Has there ever been an instance where your apprentices do not complete on time?] Sometimes they would complete on time but it would not be correctly done and so they just do it again to fix what they did wrong. In addition, a bunch of apprentices we previously had retrenchment, so they did not complete their training. They were retrenched before they could complete

13. Are there any training challenges experienced by the firm? What are these challenges?

Participant A: There is language barrier during training; some students do not understand English

Participant B: I have not experienced any challenges

14. How is your firm addressing or rather planning to address the apprenticeship and learnership training challenges?

Participant A: I personally, as an individual effort have taken a Zulu course in order to be able to communicate more effectively with the apprentices and they appreciate that I can speak to them in Zulu

15. Does your firm have a workplace training budget?

Participant C: Yea, but mostly that money is the money we receive from the SETA but next year we will have a different budget for training. [**Probing question:** will this be from your own finances?] Yes, because the money we get from the SETA is just not enough for the necessary training that we need

16. Is your firm aware of any government incentives and using any government incentives for apprenticeship and learnership training? If not, why?

Participant C: Yes, through tax incentives. [**Probing question:** How did you become aware of these government incentives?] We have known about them from quite some time now and we have attended workshops by MERSETA and SEIFTA

17. How can government incentives be made more effective for SMEs? What would assist you to train more people?

Participant C: I would not know. [**Probing question**: What would assist you to do more training in the future?] I think we need more money to train people. [**Probing question:** In your opinion, why do you think some SMEs are not involved in training?] Because of their financial situations, most companies, especially the ones in manufacturing industries are employing people. They have many difficulties but the aim is to employ and train their staff. The big issue than is finances

18. How has apprenticeship and learnership training impacted on your firm/employee productivity growth?

Participant A: In terms of productivity growth, I think because apprentices are getting skilled they can attend to breakdowns faster, repair faster, do problem solving, and assist to better the production process

Participant B: Well on the productivity side, I cannot really answer that, but on the maintenance side, apprentices do make an impact, they help a lot. There are many little things they help us out with, they make a positive impact. [**Probing question:** Can you give one example?] Just going to the machine and doing the maintenance check, checking the water and oil, they can do that. And if there is a slight problem they can fix it themselves without assistance

Participant C: Yea, very well I think. I have to tell you that the last apprentices that we employed we got them through FET and through SESA training centre. Initially, there were many problems, for example, we have had huge concerns with absenteeism. Apprentices did not want do what they were suppose to do. So from that side, I would say it workplace training wasn't that successful as how we thought it would be. [**Probing question:** Why?] As I said, absenteeism, not willing to work, they preferred to sit in the classroom type of environment, not be hands on. [**Probing question:** What do you think can motivate apprentices?] It depends, that should be on the training centre they come from. Firstly, the selection criteria should be better, applicants should be tested whether they are technically inclined or not... not only because you get a bursary or have nothing else to do. So I think they are few tests that need to be made available for these people, then at least you know you've got the right candidates that come in for the apprenticeship programme. At the training centre, serious consideration should be given to getting more qualified, good artisans to train those people because they come from the FET colleges and we test them from things they should have known which they do not, for example, they do not know basic stuff. [**Probing question:** So do you think it the learning institutions that have a problem?] Yes, it's the learning institutions they come from. And another thing that we've also seen is that with discussions with FET colleges and other training institutions when you call these kids for interviews, they are not prepared to go into an interview. You cannot expect of them to be like somebody that has worked for 5 or 10 years... it is new people, it is kids. However, they need that little training to go into the workplace. [**Probing question:** Who is the mediator between the firm and the FET colleges?] It is I, our technical guys and the FET colleges. They give us a shortlist, who we interview, then we decide from there who to enrol in the apprenticeship programme

19. How many of your previous apprentices and learners have been employed into the firm after completing training?

Participant A: In the last ten years about 9

Participant B: Well I am one of them, I was an apprentice here. I started here in 1983. Now 6 apprentices have been employed. [**Probing question:** And over the past 10 years?] Maybe one electrician

20. Why do you employ these apprentices and learners?

Participant A: Because they know the set up, they know the machines, they familiarize themselves with our environment. In addition, to tell you the truth I'm the product of one of the apprentices here. I have started here 27 years ago and I am still here

Participant B: Well, I think they know the work environment, they know the machines and it easier to keep one of them on than to take somebody else from the outside because might have to train them, not completely train but show him a few certain things

Participant C: We want to give our youngsters the opportunity first, and give them some training to get into the workplace. Moreover, they help us as well and they help the company

21. For those that do not get employed, do you know where they go afterwards? Do you do follow ups?

Participant A: I know of a few guys that phone me after they have been qualified and said to me I have qualified and thank you. I am going to work at this place and this place. However, it depends on how the guy's attitude was towards us. If they like me, they will phone me

Participant B: Nah, everyone that previously qualified was employed, none that was qualified was asked to leave… but more previous than 10 years… maybe 15 years ago

Participant C: Well, we have not been in that situation yet, because we have just started with the new group, all the others have been employed by us beside the retrenched ones

22. Are there any concerns that you have identified not only in your organisation but with SME's in general, that remain a barrier to workplace training?

Participant A: What I've seen previously in some instances, there's a lot of ladies that want to do technical work but physically there is some constrains because of strength and type of stuff but what I also see is that when they attend in training centre some of the qualities are not up to standard. I expected better training in that sense so you can leave them and they could carry on with a certain job or the time they spend at the college doing practical training. At the end of the day, yea there is a gap there

Participant B: Nah…

Participant C: I say mostly its finances, people I've spoken too in our area would like to train more but because the mandatory grant has been dropped from 20 per cent, and you must apply for pivotal, which also you don't always get… it the bigger companies that get the money, not the smaller companies

23. In your opinion, what factors do you believe can lead to successful workplace training in SMEs?

Participant A: Career guidance, that is number one. Number 2, our factory itself to have a training centre, a proper training centre, and to develop more skills within the workforce themselves. And to also help the community by letting schools do a tour and see the environment because if you had to go and think about the electricians work and really don't know what type of work he does, how are you going to decide which career you have to take? Because it easy to stay at home and say I want to become an electrician and when you see the job you say oh I cannot do this. Therefore, at the end of the day, I think it all comes back to career guidance

Participant B: I just think the apprentices should be positive in what they are doing or the learners or whatever. If they are positive it would work out. [**Probing question**: Do apprentices in your work have a positive attitude?] Yes

Participant C: Well, firstly, you need to have the skills insight. We need to employ the right people to train other people as well. Again, it comes back to finances. You have to employ good people to train other people and that cost money

24. In your opinion what makes workplace training in SMEs different from workplace training in large firms?

Participant A: I would say there is more individual contact in SMEs and you can provide better assistance to students and also help them to improve themselves. In a large company, it's quite difficult because the numbers are greater and you can't really have that individual contact

Participant B: Well, I think that the larger firms, if I can speak through my experience... students get trained to do one job and in our firm as inexperience as the students are, I would send them to go sort out a problem. They must first try to sort it out and if they cannot they must come to us. We would not help them out, we would tell them to check that and that and they would go and figure it out. In big companies I do not think it happens like that, I think there is too much production. So students won't have the time to take their time to repair and they are expected to get things done faster

Participant C: Again, I think large firms get more money from the SETAs to do training. Secondly, large firms are better equipped, and they got maybe better skills than what the smaller companies can afford. In addition, obviously, this entire BEE comes in, your BEE scorecard, so for a lot of bigger companies they are very much depended on their BEE scorecard and they have to get good skills points because of the tax incentives

25. How flexible is the training system in your firm?

Participant A: A manual is just there for background in my opinion. It teaches students' the basics. If you are an individual that has the inward drive, a passion for your job… like for instance, I got one guy here when he does a breakdown on a machine I leave him and he has to battle it out. Every now and than he comes to me and say he does not get it right and I say to him go back and start over. So that it teaches him to work independently. He uses all the knowledge that he gained in the training centre or wherever with his own initiative to overcome the problem. [**Probing question:** Do you perhaps know whether other supervisors train their apprentices in the same manner?] I am not sure how other mentors do their training but that how I train my people because at the end of the day they are allowed to make mistakes, that how I feel. You are allowed to make a mistake so long as you learn from it. **[Probing question:** Do the mistakes cost the company money?] No, I wont allow an apprentice to put machines in danger or to himself, what I talking about is simple breakdowns or tasks they have to do, so they can learn to initiate they're own initiative

Participant B: Yea, we always have to know where our students' are. They can go to look down machines, run the wheel, and come back with a question. We allow them to do this in order to increase flexibility

26. Do you have further comments?

Participant A: I would suggest that students' get more involved with the career guidance and decide what they want to do at an early stage. They can decide what they want in life because it does not help the student to take the first job he can have and at the end of the day he is not happy with that job. The

job must be your passion. The student must enjoy his job and not be forced to do their job. It must be their inner desire to be in a certain direction, maybe technical or whatever. [**Probing question:** Do you feel the students' are not passionate in your firm?] I get that feeling, yea. Some are great if you interview them and they sit around the table, they let it be known that they want to be in this position. But as soon as there is pressure, especially on breakdowns e.g. the technical guys when they need to perform in a critical situation quite fast to get machine up and running or whatever... there's a lot of pressure and some people can't handle the pressure and that's the problem. Students crack or get emotional and stuff like that and that is where friction comes in. I would say at the end of the day, you must decide, you must be able to handle whatever that comes your way. **[Probing question:** What do you mean by friction?] Let me explain to you by what I mean about that, I had a lady here that was an electrician and when things got a bit pressurized, she turned to the union… and for me you must handle your pressure. She felt like she was victimized. That is not victimization as I'm not forcing you I'm just giving you the tools so that you can force yourself to become better. I always say, for any learner, if you have to sweep for the day, you must become the best sweeper there is. If you must do whatever for the day, you must become the best there is and I cannot tell you what to do. That must be a passion inside you and you have to drive yourself. Sometimes you cannot wait for someone to teach you. If you are not learning something today, then you must ask yourself a question, why. Why did not you learn something?

Participant B: If we training an electrician his training should be slightly varied. He should be able to do a little bit of boiler making, same with the fitter and turner. If he is working with the driller machine, he should know how to fix the plug or else he would wait for an electrician when he could help himself. The company should give students' the flexibility to do other training, not only what they are trained to do

Participant C: They use to be not enough artisans and we are going through a stage where we are training and training. The calibre of that quick training artisan is not as it should be because it's quick training i.e. the accelerated programs. Moreover, I think as a country we need to be careful that we are not going to have an access of artisans because we just train now for a figure on the board. Are these artisans going to have jobs after training?

FIRM B

1. What is the size of your firm i.e. total number of employees?

Participant D: 171

2. How many of your employees are apprentices and learners?

Participant D: 15

3. Does your firm fund apprenticeship and learnership training?

Participant D: Yes

4. What are the apprenticeship and learnership programmes funded by your firm?

Participant D: Fitters, electricians, and boiler makers; but we won't be doing boiler makers anymore because our company's workplace approval for boiler making wasn't approved. In addition, it terms of learnerships it is only production technology

Participant E: Electricians, fitters, and boiler makers

Participant F: Electrical and mechanical field, we also have boiler makers now

5. Why does your firm provide apprenticeship and learnership training?

Participant D: To give back to the community and help them with their future, for instance, you take unemployed people and bring them in here. You pay them according to the bargaining council rate. We do everything for them and we pay for their training. Moreover, when they are done with their training and we have positions within the company or within the group and so depending on how the person has conducted themselves and how good they are we are able to place them

Participant E: Well, it is an incentive to the company as far as I know

Participant F: Our business is technically based, we need those skills, we utilise those skills. So it's relevant to our line of business

6. Does your firm experience skills shortages?

Participant D: Definitely, when it comes to technical skills it is always an issue. If you have a finance position, it would not take you two months to fill but if you are looking for artisans it can even take you 6 months. So in terms of South African there is a shortage but if you go over to a expatriates, for example Zimbabwe there's a lot of them who are qualified there but in terms of our people either they're scarce or they come from mines where they were getting paid too much so you cannot afford them. In addition, there is a lot of job hoping because they know that they are in demand, so a person can work here today and find a job somewhere else that pays them a lot, so they would go. [**Probing question:** Has this always been a problem?] I think so, for as long as much I can remember in my career life. Artisans are not a skill that you find readily available

Participant E: Not necessarily, technical wise there's a lot of qualified artisans out there… so if ever you need an artisan without training, you can get an artisan

Participant F: So far, since we are training, we are okay, we do not encounter skills shortage

7. Does your firm provide alternative training besides formal apprenticeship and learnership training?

Participant D: For the apprentice... no unless of cause you are talking about a skills program. We don't exclude apprentices from other training that happens in the firm. Their training is not limited to the technical component, they can trained even in soft skills

Participant E: No, we stick to the guidelines i.e. their logbook

Participant F: No, we follow the training schedule i.e. mental and engineering training schedule were by whatever that is in there, it could be safety, it could be working with the tools, all that formalised

one, we follow that one. If it got to do with trade safety, they have to do first aid and all those is incorporated there

8. How important are these alternative forms of training in your firm compared to formal apprenticeship and learnership training?

Participant D: Well, any type of training that we do we are looking at enhancing your employee because you benefit from that. So I will go back to what I said, we do a skills plan that we update every 3 months. So according to the strength or the weakness of the person then we book them on the alternative training because you rip the benefits at the end as the employer whilst empowering the young person. Therefore, you found out that when they come out of here, not only trade tested, they are not only deemed to be fit to become artisans but on other skills also they are sharp. [**Probing question:** would you continue to provide these alternatives training in the future?] Of cause, this group we finished training are qualified artisans now, so next year we are taking 10 apprentices and we are looking to have at least 20 learnerships

9. Why do you provide these alternative training programmes?

Participant D: (*answered in question 8*)

10. Are any of your employees currently receiving training beside apprentices and learners?

Participant D: Yes, all sort of training some are doing degree courses, some are doing diplomas, and then again we've got our soft skills. We also have bursaries that we give out. So our company believes in training, like we'll do run an excel awareness, for an example, we a send out a list to the HOD of who we feel needs training on this and that, and we would a whole group of training. [**Probing question:** Are these females or males?] Everyone [**Probing question:** What about is the race of individuals being trained?] We do not look at that but because as you know most companies, especially in the production area would have more Africans than the other races. [**Probing question:** What is the age group of the people you train?] Look because our apprentices are quite young; maybe say 24 and then the oldest 65. [**Probing question:** Does everybody you train in your firm have a qualification?] Yes, like recently, we've employed a lot of operators.... I am sure you are aware at the job front there are no job opportunities, so we have people with honours degree, Bsc chemistry, and all sort of qualifications. [**Probing question:** Do your apprentices carry any qualifications at all?] The last apprentices did not have any diplomas, it was just matriculation certificates, and some of them did not even have matriculation certificates. So on the next group of apprentices that we are taking in we are insisting on matriculation certificates and maybe N3 for the apprentices and for learnerships

Participant F: Yes we do have alternative training, for example, crane, operation training, and lifting machinery. [**Probing question:** Is this training only for apprentices or it for all employees?] It for all employees in the engineering department. The ones in production would get their own specified training that is in line with their work. [**Probing question:** What is the gender of individuals receiving this training?] They are males, as we do not have females in the factory because we are a lead chemical company so we do not employ females in the factory. [**Probing question:** What is the race group?] Blacks [**Probing question:** Do your learners have any qualifications?] Last time I heard, they had matriculation certificates

11. What is the typical estimated time to complete a full apprenticeship and learnership qualification?

Participant D: It depends, if you are going to take someone fresh from school with matriculation certificates it will be about 3 years or even more because what happened in our case is that there are some guys we took from production over to do an apprentice qualification and they battled a little bit. So instead of finishing in your period of 3 years, some have taken more years to complete. However, going forward we want people to come in with N3. We also give apprentices the experiential learning and pay for their trade test readiness up to when they finish

Participant E: Traditionally, apprentices finish is four years and than learnerships, qualification is two years

Participant F: Apprentices is a four year depending how hungry the apprentice is and how quickly he can grasp. It can be shorter if he quickly goes through all the modules and you can see that he is just not completing the theory but also going with it even in practicals

12. Do apprentices and learners in your firm complete their training on time?

Participant D: (*answered in question 11*)

Participant E: No, not the current ones since there are those that went over 3 years. [**Probing question:** Why, what happened?] Because they had difficulty with the theoretical training at the college, the N courses

Participant F: It is capability based, for instance if you are not ready, you will not complete. You have to be ready to complete your qualification and become an artisan

13. Are there any training challenges experienced by the firm? What are these challenges?

Participant D: The challenges that we've had in our case was really about the four guys that we took from production because they were really a bit slow and that affected them during training

Participant E: The guys that were pulled from the production, skills wise they were good but theoretically in technical training they were lacking in that aspect. They struggled a lot

Participant F: There are challenges whereby you find that a guy might not understand the task and that what would hold them back, even their attitude. If the guy doesn't have a positive attitude towards the trade and to listen precisely to what he's being told and what needs to be done

14. How is your firm addressing or rather planning to address the apprenticeship and learnership training challenges?

Participant D: I really think it was a once off challenge because you taking people that… I do not know what was the last time there were in a classroom, so you always make room for that to say you are going to have fresh guys who just finished their matriculation. You know... and they have done maths and physics so if you compare them to these ones that some of them did not have matriculation, they did not have maths, they did not have matriculation... you know... there was always going to be a gap. So going forward, we are strict on what we are doing. An student must have matriculation with maths and science, and your N3

Participant E: The new apprentices that are being hired now must have a matriculation pass

Participant F: You just have to keep on going, keep on instilling discipline, keep on talking, keep on inspiring them to work as per book

15. Does your firm have workplace training budget?

Participant D: Yeah… it is very big. [**Probing question:** What do you priorities? Is the training budget enough to cover your training costs?] The budget is overflowing, so our priorities for 2017 is to offer bursaries, train apprentices and offer a lot of learnerships, and soft skills

16. Is your firm aware of any government incentives and using any government incentives for apprenticeship and learnership training? If not, why?

Participant D: Look, we apply for government incentives because there is money that goes into a SETA and we fall under MERSETA. Therefore, you will apply for discretionary grants but usually it's not enough and we are not concentrating on that. If we get it, we get it and it means more money for us and more training for us. However, if we do not get funding we will continue with the budget that we have. [**Probing question**: How did you find out about the government incentives?] Look, because we fall under MERSETA, we would know. You will go for training, you do whatever, and they would tell you that funding is there. You just have to apply and then they would decide as to what it is that they give you

17. How can government incentives be made more effective for SMEs? What would assist you to train more people?

Participant D: With government incentives, you would help so many kids

18. How has apprenticeship and learnership training impacted on your firm's/employee productivity growth?

Participant D: Training has influenced positively on the employee's productivity

Participant E: In my opinion, if you hire someone who has been on the production line and train them as an artisan, they would know everything that needs to be known and fix it, especially in the production line. Unlike taking someone from the outside and sticking them inside the company, he does not know what is going on. [**Probing question:** so training has influenced employee productivity?] Yes, it has influenced positively

Participant F: It has impacted positively, some of the apprentices before they even qualify we start using them for qualified artisan work, whereby it is saving the company money

19. How many of your previous apprentices and learners have been employed into the firm after completing training?

Participant D: This is the first group that we would have of apprentices being qualified artisans. So out of the 7 we are going to take 2

20. Why do you employ these apprentices and learners?

Participant D: When we take these 2 we are looking at their performance at school, how they've been conducting themselves here at work, and their attitude

Participant E: Because there was a space for them at that time

Participant F: We have not been in a situation whereby we have not employed yet those that have qualified. All those that are employed today are the ones that qualified and we employed them

21. For those that do not get employed, do you know where they go afterwards? Do you do follow ups?

Participant D: Yes, we do that, so although they have qualified we have kept them with the idea that lets keep them up to December because they are unemployed, but they know that if they get opportunities outside than they can leave. There is really not a notice period attached to that because we are just trying to help them.... we are also reaping the benefits obviously of having them around

Participant E: Unfortunately, we have not done any follow ups

22. Are there any concerns that you have identified not only in your organisation but also with SME's in general, that remain a barrier to workplace training?

Participant D: Not really, maybe a barrier I will talk about because apprentices are much better than learnerships. Therefore, I will talk about learnerships, for instance when we talk with colleagues the highest thing is that you would start with a particular group of learnerships but not all of them finish because they are different from apprentices. Apprentices are here everyday. Apprentices are working and even how you pay them is quite different from what you were to give a learner. So sometimes, they would feel overwhelmed or they would feel like it is not worth it because they are in a firm and then they attach money to what they are doing. So one of our companies, what they are doing is that they run a huge group of learners so what they do is they give them an opportunity to go into the plant, do something, and pay them a decent rate... that is how they have been able to retain them. It will not be the first time that I do this. I am really concerned because I do not want any drop out because you spend about R30 000 for a person in a year and they need to finish the course. So yea, we are trying to look at different ways of attracting them... and to say that, look you are not only coming here for one week a month, you are also making a difference in the organisation just to keep them and keep them busy

Participant E: No, not that I know off

Participant F: What I can is that the training is compromised now, its not the same training as it used to be. People seem to be in rush to qualify to get the paper even if they are not ready yet. It's becoming a thread because as an artisan you have to have the knowledge of the trade so that anywhere you go you can apply that instead of rushing to get the paper. [**Probing question:** What is the impact of this?] What I have noticed is that people will go straight to college and get their N6 then they want to become apprentices. Only to find out that they got big heads now and they do not want to be treated like apprentices. They just want to qualify to get that paper then they want to be made engineers because they've got N6 then they don't do the training right because they think they're more qualified than the mentor, whereas the mentor is more experienced in the field. Then that becomes a bit of a problem,

whereby the training delivery or trainer or the mentor, at some point will be somewhat discouraged to train

23. In your opinion, what factors do you believe can lead to successful workplace training in SMEs?

Participant D: I think when you are dealing with our youth, you know, what I have seen from my experience in nowadays kids want things to happen like this… assign a person or a mentor to the learner, let them work with them and try and keep them busy as much as possible because as soon as they get bored than they leave

Participant E: So far as I know, our training of apprentices is successful [**Probing question:** What about future training in the firm, what you wish to see change?] In my opinion, if there were to be a particular person dealing with the training… like a training officer instead of me having to run the plant and organise the training of apprentices at the same time

Participant F: The selection criteria paramount, select people who really want to be artisans, then they will treat the training as it is

24. In your opinion what makes workplace training in SMEs different from workplace training in large firms?

Participant D: I think large companies are at an advantage because of the opportunities that they offer. I mean because the company is big, number one they can accommodate more apprentices and learners. However, I might be wrong in this but I think what apprentices stand to gain in a large business versus what they will gain in a small one is greater because the experience that they are going to gain is based on the organisation and where they are based, but I might be wrong in my assumption... its just an assumption. [**Probing question:** Do you think training in large firms is more effective compared to training in SMEs?] I do not know, but if I was to choose between going to a large organisation and a small one, I would definitely go for the large one because even after you are done with training and say you did an apprenticeship in large company, they are going to take you

Participant E: I would not know…but large firms got dedicated training officers that deal with training the apprentices, here we do not have a training officer

Participant F: I would not know

25. How flexible is the training system in your firm?

Participant D: I do not know, but what I have heard our engineering foreman say is when you are an apprentice you work with a qualified artisan only after you've qualified you are able to work on your own, because remember they go according to rules

Participant E: It is flexible as long as the learner is competent. [**Probing question:** Are learners allowed to go beyond what they have learned in the shopfloor?] Yea, they can if they are working on their own

Participant F: In training when you are coming to a fault-finding section, you have to be creative. You cannot just go as per book. Our learners are allowed to think rather than being spoon-fed

26. Do you have further comments?

Participant D: No

Participant E: No

Participant F: No

FIRM C

1. What is the size of your firm i.e. total number of employees?

Participant G: 31

2. How many of your employees are apprentices and learners?

Participant G: 6

3. Does your firm fund apprenticeship and learnership training?

Participant G: Yes

4. What are the apprenticeship and learnership programmes funded by your firm?

Participant G: To train the apprentice takes about 3 years and the requirements is that they have to have a minimum of N2, which is equivalent to a technical matric, and we provide the funding for that. So we will send them to school to do the theoretical part, we allow up to 111 days I think a year for study leave and its paid study leave. Therefore, we pay for them to go to school but we also pay them their hourly rate while they are at school because obviously they earn good money. We are not even paying them a stipend, we paying them a proper salary because they are invested in their own education. However, if they do not pass that semester then they have to reimburse us the study fees and they would have to rewrite that exam at their expense. Therefore, we pay once, for instance, we get feedback from the college. The college sends the result directly to us and if the college feels there's a problem with the student they would phone and say we think there is a problem that needs to be addressed then we address it, so we pay for all the studies. In a year our learners have been to college twice, they have done six months school and six months practical. [**Probing question:** So what training programs do you fund?] So part of the apprenticeship they have to have N1 and N2. So we fund that but there are others like, they have to have a first aid qualification. That is part of the MERSETA requirements, they have to attend health and safety course, they should attend fire fighting course, all that kind of stuff gets funded by us because it forms part of the MERSETA requirements

Participant H: It what is happening here in the workshop… the tool making

Participant I: I do not really think we've got a fixed training program for them but they do get adequate training and they do have a list, for instance, a task of things that they have to complete and we help

them to get through those tasks. Therefore, it is the program that they got. It not the program that the company sets up it is the program that the apprentices get from the apprentice board

5. Why does your firm provide apprenticeship and learnership training?

Participant G: So, there is a definite gap in terms of people that have studied technical studies and in terms of learning on the job, stuff and we have been training apprentices for 22 years. The reason for that is that there is a skills shortage and there are people out there that are capable of working but cannot find work, and those have the theoretical knowledge but do not know how to apply it. Training also allows us to give back to the community, develop in training, utilise skills resources and create skills resources, and decrease skills shortage

Participant H: I train them because they have to go for a trade test, so if you are not trained you won't be able to write a trade test, and also because we want to help the people of South Africa

6. Does your firm experience skills shortages?

Participant G: Yes we do. If you have a vacancy for a tool maker and you try and appoint a tool maker from outside, what we have found is you can find people that have done tool making on their CVs but when you bring them into the business you actually have to retrain them because they are not trained properly. So they might have their qualifications that say I am tool maker but when they come here you suddenly realize they don't have the technical background and the practical knowledge, then we end up retraining them [**Probing question:** Has it always been a problem?] It always been a problem and that why where we have trained the apprentices the right way we try and keep them on our permanent pay roll because we know what they are about, we know that they have trained right, and they know what to do. It easier to train somebody from the scratch than to have somebody that is already qualified and try retrain them

Participant H: No

Participant I: No, I do not think so because we do a lot of training… some of them we keep here if we can when they finish their contract and we ask them to come back and become artisans here because we know what skills they have

7. Does your firm provide alternative training besides formal apprenticeship and learnership training?

Participant G: In order to qualify as an apprentice for MERSETA you need N2, so some of the guys on their own are completing N3, N4, and N5. One apprentice here is busy with N6. Therefore, the reason why he is doing his N6 on his own is that he is so far in the program that we cannot afford to actually send him back to school for 3 months, so he is studying at night

Participant H: No

Participant I: They do, to me its all-formal training, whether it is off the computer or not because most of the machines get run off on the computer. So if they are trained to programme and so forth but that is still formal training in my opinion

8. How important are these alternative forms of training in your firm compared to formal apprenticeship and learnership training?

(… skipped question)

9. Why do you provide these alternative training programmes?

(… skipped question)

10. Are any of your employees currently receiving training beside apprentices and learners?

Participant G: Yes, so we have a gentleman that we are training as a machine setter. There is no apprentice for that and no MERSETA to cover that. The only way we can develop that guy is to do it on the job ourselves and there is no college which teaches that. This gentleman is an African male between the age of 18 and 26. He has a matriculation qualification but he did not do well

Participant I: No, if they are stuck, they are helped but its not really training

11. What is the typical estimated time to complete a full apprenticeship and learnership qualification?

Participant G: The maximum time allowed is 4 years. Majority of our guys finish their apprenticeship in 3 years and if they haven't completed it in 4 years then the qualification changes from being a trade test to being the old section 28 for prior learning so that they qualify on time not on trade test. We have had one apprentice go through that and that never ends well. We prefer they go through the trade test and pass. Some of our apprentices have had to do their trade tests more than once and we persevere with them until they pass

Participant I: 3 years

12. Do apprentices and learners in your firm complete their training on time?

Participant G: They do, there has only been one individual that we try to qualify on time because he could not pass the trade test. Therefore, all of our guys except this one have qualified in time

Participant I: Yes

13. Are there any training challenges experienced by the firm? What are these challenges?

Participant G: Yeap, so what we have found is that when we take an apprentice on and they cannot grasp maths and science then we struggle through the apprenticeship with them because the apprenticeship programme in our organisation is all about accuracy, everything is about numbers, everything is about science, so accuracy is critical for us. If somebody cannot use a calculator and does not understand maths, than that becomes a real problem. Therefore, for that reason what we have arranged with the college is that if they have identified a student that does well in maths and science then those are the people we will target to put into the apprentice programme. Because we know they will understand and grasp the science and the maths behind the apprenticeship. Where people have low maths marks we struggle, they really battle to complete the apprenticeship

Participant H: Yes, we do. Firstly, with the use of the tools that we have some struggle to operate the machines. Some you find that they can't even make a block square and that's the most things what we experience

Participant I: With the apprentice it always a challenge, like I said earlier they don't always do everything like you want them to do and may have to repeat and so forth. There are challenges in that way but fortunately, the apprentices that we have grasp things quickly. You do not spend too much time training them because you show them what to do and they do it

14. How is your firm addressing or rather planning to address the apprenticeship and learnership training challenges?

Participant H: We just starting from the scratch because we want to make sure that we give thoroughly training

15. Does your firm have workplace training budget?

Participant G: Yes, because all our apprentices are paid a monthly wage. They are not paid a stipend like other companies pay a stipend which is a fraction of what they should be earning. We pay a proper salary and we have a budget for what we spend on training. Probably 90 per cent of the training budget is for apprentices

16. Is your firm aware of any government incentives and using any government incentives for apprenticeship and learnership training? If not, why?

Participant G: We have not been in the past but this year we have applied for government funding which has been approved. We have not received the payment yet but from next year actually, first of January, we will be receiving government grants but it is the first time we have really done that. We have never asked the government to pay us and we have never claimed on our skills development levy, we have never done any of that

17. How can government incentives be made more effective for SMEs? What would assist you to train more people?

Participant G: Bear in mind that our apprentices are paid a proper wage and we pay them for their qualifications, their training, and their trade test. All of that costs a lot of money and I think if the government funded more of that and made the government grants more accessible then I think, we would be able to train more people. In addition, I think to a large scale if the government was prepared to pay tuition for college students, the technical studies… that would also help. But for our part, we don't train employees to get government funding... that's not what we doing. For years this is our first time we have applied for government grants and it because the MERSETA made it available for us and it about doing the right thing

18. How has apprenticeship and learnership training impacted on your firm's/employee productivity growth?

Participant G: An apprentice starts with base zero because they know nothing when they arrive here and one of our apprentices is our tool room foreman now. Therefore, it really fulfilling to somebody start and not understand and grasp concept to become a foreman. It really fulfilling to see how these guys go and so it does add positively to us as well because we invoice the apprentice, we charge customers based on time, we invoice the apprentices out and that's how they give back on us

Participant H: Yes it does

Participant I: The skills training of the apprentices they do help the journeyman in a sense because all the easier jobs of something we give to the apprentice and the journey man doesn't have to stand and do it. Therefore, it does save time in making things because you are using more than 1 person to manufacture a mould or whatever

19. How many of your previous apprentices and learners have been employed into the firm after completing training?

Participant G: Apart from one apprentice that we've trained in the past, every single one of them have been employed permanently by us and that is how the business is growing… it not by design. The business grows and you need more people and therefore you are able to keep them....

Participant I: Everyone one of them, they eventually leave the company but every apprentice that been trained here stayed on afterwards… we've never asked an apprentice to leave here once he is qualified because we've trained him

20. Why do you employ these apprentices and learners?

Participant G: hmm they get employed because what we've found in trying to recruit a tool maker, while someone says I am a tool maker on my CV, doesn't mean I understand what tool making is and the way that tool maker has been trained is not necessarily at the right level. So the people we train we know have the right capabilities and skills to get the job done right and that's why we keep them, because we've trained them and they know exactly what's required, they know what the standards are, they are complied to those standards, therefore, they are worth keeping

Participant H: Because we saw the potential in them. To be quite honest with you, we first check him how he is doing at school, and give them some bit of training here and see how is… because sometimes a person can be good on the theory but when it comes to theory but when he comes to practical he is not

Participant I: We know what he can do and what his capabilities are and if he does leave, it on his own choice

21. For those that do not get employed, do you know where they go afterwards? Do you do follow ups?

Participant G: Yeah, so what happens is we will always give a letter of recommendation and in some instances; we will try even finding employment for them because we know many people in the industry. We will do whatever to support them getting another job

Participant H: Unfortunately, we have never had that problem… this company is trying to employ people as much as possible

Participant I: Simply because we know, what they capabilities are and we would not employ somebody if we feel he's not capable on doing what we expect them to do

22. Are there any concerns that you have identified not only in your organisation but also with SME's in general, that remain a barrier to workplace training?

Participant G: Issues for people's development in SMEs in my opinion is funding. Therefore, I think that for companies that are small like ourselves it all about how you fund that training. We have been lucky in that we have been blessed with the amount of work we have. We are a very busy tool room and that's has allowed us to train apprentices. It was not always like that at the beginning we always struggled. So when it comes to the biggest barrier I think the first is the SMEs themselves… they have a skill shortage. So they themselves are not suitably qualified to train and they don't have the financial means to train. We have a partnership with MERSETA and this year we have solidified that partnership. We have been working very closely with MERSETA to make sure we understand the requirements. We have put a proper formal processing place for training. In the past our apprenticeships were done in a much disorganized way and now it's a formal process. We know what the steps are and we stick to it, with regular workshops with MERSETA

Participant I: That is a difficult question because there is always something that can give you a problem but it difficult to identify until it actually happens

23. In your opinion, what factors do you believe can lead to successful workplace training in SMEs?

Participant G: Facilities, so you can bring somebody in and train them but if you do not have the machines and the facilities that lean towards that technical qualification you cannot train somebody. Therefore, if you have the right equipment and have somebody who is correctly qualified to train the apprentice than you are set up for success and we have all of that

Participant H: The only thing I know is that apprentices do not get the proper training from other companies. Apprentices here say the training is much better than in other companies. They are actually saying in other companies they do not sit down with you or train you and stuff like that. They just give you a job and do this and then they leave you... they don't care about how you are struggling

Participant I: Successful training all depends on the apprentices themselves, they have been willing to learn… if he is not willing to learn, he is not going to learn anything. He is just doing it because it's a job… he's not going to learn… so everything is on the apprentices court, so far as training goes

24. In your opinion what makes workplace training in SMEs different from workplace training in large firms?

Participant G: The big different here is the amount of money they have in the bank. Large firms can afford to employ learners and because of the requirement for BEE qualification, and big corporate environments. They need to do training and they use training to validate their BEE scorecard. In our environment, we are a small business and BEE scorecard really does not count as much for me. BEE is very small on my agenda and my agenda here is all about developing people. Whereas in a corporate environment it is all about BEE and the difference is the funding. Big corporate businesses they have a lot of money they can bring in 20, 30, 40 learners and they can put them through a learnership. Whereas, in SMEs it a very much smaller scale, less funding, and lot of them it self generated funding. We have

to find the money ourselves because we do not have government backing us up. Therefore, what we are doing is self-funding but in corporate it much bigger government grants that is easily accessible

Participant H: One thing I know about large companies is that they only take you if you are qualified, they do not do too much training. It is only the small companies that do training

Participant I: In my opinion, the large firms normally have a dedicated training school but smaller companies they got hands on training. It not a lot of people that you have to train and it not like in the classroom where there is like 30 kids sitting there that you going to try and explain and then somebody doesn't understand and gets lost. If they do not understand here you've got time to go over it again with them until they understand what you want from them

25. How flexible is the training system in your firm?

Participant G: If you want to set up someone for failure, you put a supervisor to watch their every move. They are not going to learn anything like that… if I sit in a room and I tell you to do that, do this, tick that box, tick that box, when I walk away as the supervisor what have you learned? You have not learned to think for yourself. So what we here is, it starts with a small task and I will give pointers but if you choose not to use my pointer that is your decision. In addition, with the apprentice what we've found is, its far better to tell somebody I need you to make this component and this is how you do it then I walk away and I leave you to do it. If you are stuck or if you make a mistake, you come to me and say I think I made a mistake, how do I fix it? I would coach you through that process but I certainly do not tell you that there is a piece of steel, I want you to do this, and I want you to do that. Therefore, I give you the bigger picture, I say this is what we are making, and this is how we do it now go and do it. If you are stuck, come and ask me. We have a very good partnership with MERSETA, the college institution, and that is why we are good at what we do

Participant H: In order to see the intellectual of somebody else you teach him and let him do it [**Probing question:** Are the students allowed to think outside of the box?] Yeah, even if I say to him I want to cut this thing this way, he is going to say to me no what if we cut it this way. If I can see that this is a good idea, we going to go for it

Participant I: Yes, they can and if the apprentice comes up with an idea he will bring it to you and ask if you think this would work or what. It is not just you telling him what to do all the time. You tell him you want this done and he will come to you and say well I think this way would be easier than that way, so eventually they come to a point where they can think for themselves and you don't have to spoon feed them all the time

26. Do you have further comments?

Participant H: Actually, to come more here in the workshop, learn about the trade, and see what we do and how we do it

8.4 Appendix D: Interview schedule for MERSETA experts

Opening

(***Establish Rapport***) [shake hands] My name is Sindiswa Msomi, a Masters student in the School of Education at the University of Witwatersrand. I am conducting a research study Training and skills development for technical employees (apprentices and learnerships) in the manufacturing Small, Medium-sized Enterprises (SMEs). I thought it would be a good idea to interview you because you are familiar with training and skills development in your firm.

(***Purpose***) I would like to ask you some questions about skills shortage, employees who receive training, forms of training and skills development in your firm, the workplace training challenges experienced by your firms, government incentives, and your overall opinion training and skills development for technical employees in the manufacturing Small & Medium-sized Enterprises (SMEs).

(***Motivation***) The hope is that this research study will add on the studies to better understand the role of South African manufacturing SME in skills development and employment.

(***Timeline***) The duration of the interview should take about 30 - 45 minutes and it has 26 semi-structured, open-ended questions, and with your permission an audio-recorder will be used during the course of the interview and notes will be taken. Are you available to respond to some questions at this time?

(**Transition:** Let me begin by providing the findings from the three manufacturing SMEs)

QUESTIONS FOR THE EXPERTS

1. How representative are the findings from the three manufacturing SMEs to the population of manufacturing SMEs?
2. Are the constraints found in the three manufacturing SMEs interviewed, unique or typical to the manufacturing SMEs?
3. What are the other constraints experienced by the sector which are not mentioned by the three manufacturing SMEs?
4. Are these challenges specifically for manufacturing SMEs or companies in generally?
5. What is the role played by SETAs in addressing these challenges?
6. How possible is it to eliminate these challenges?
7. Is it common for manufacturing SMEs to have a high preference for apprenticeships compared to learnerships?
8. If yes, what are the reasons?

(**Transition**: Well, it has been a pleasure finding out about skills development is your firm. I would like to briefly summarize the information that I have recorded during our interview.)

Closing

(***Maintain Rapport***) I appreciate the time you took for this interview. Is there anything else you think would be helpful for me to know so that I can better training and skills development for technical employees in the manufacturing Small, Medium-sized Enterprises (SMEs)?

(***Action to be taken***) I should have all the information I need. This data will be transcribed and analysed for my research study. Would it be alright to provide you with feedback or contact you if I have any more questions or need clarification? Thanks again.

8.5 Appendix E: Transcribed MERSETA experts qualitative data

MERSETA PARTICIPANTS RESPONSES VALIDATING THE RESPONSES FROM THE THREE MANUFACTURING SMES

A. The three manufacturing SMEs say funding is a problem? What is your view on this?

Participant J: I agree funding is not always enough to cater for their training needs. SMEs do not have a dedicated training unit and as such, the funding is not always enough. Moreover, the funding from the SETA sometimes, like the discretionary grants not always caters for them. Funding is not readily available for them. The focus is more on companies that are developed already. As much as there can be some assistance, all in all the funding is not enough.

SMEs do not fully have access to government funding because of the discretionary grants that cater for large and developed companies and for SMEs sometimes they do not qualify for funding. They only qualify through the grant that is to just support their activities. Compared to large firms SMEs are more focused on their production because they have employees and not so much on marketing their product. In addition, SMEs do not have dedicated skill development facilitators that can engage with the SETAs, liaise, and network in relation to training needs.

Participant K: The issue with funding with SMEs is that the majority of them do not know how to complete the required documents that would allow them to get funding. Some do not have the skills development facilitators to facilitate the completely training application for grants and you have find that some of them are not participating so they are not getting grants for training. The second element is that some based on their income or turnover is very low, therefore the levy that they pay is very low some would argue it is not worth the effort to go through the application process for grants and therefore will not get grants. Some will not get grants because of lack of capacity, for example, some SMEs will not get workplace approval because person without qualifications would own them

Participant L: The issue of funding does not apply to SMEs only… generally, that would be created by lack of knowledge. You find that so many SMEs do not have information on how they can access funding even though funding is available

Participant M: The issue of funding is not relevant for all SMEs because there is extensive funding/incentives through the department of small businesses and all the agencies like SEDA… and specifically for manufacturing. What I think is maybe a problem is the lack of awareness of where these incentives are available

Participant N: Yes, generally there is this concern in the industry. Most of the SMEs by virtue of their size or annual levies or annual wage bill… most of them by law are exempted from paying levies. Now that does not deny them any access or benefits that any levy company would enjoy in the SETA, despite the exemption. They are allowed in any event to participate, so long as they are genuinely registered as companies or entities

Participant O: The funding is there from MERSETA, the only thing I mostly get from small companies is the lack of knowledge on how to access funding from MERSETA. For example, they normally do not have like a big human resource department where they can have a trained SDF who can coordinate and become between companies and the SETAs. Secondly, even though funding is there, small companies are complaining about poaching, for example that after training people will leave and go to bigger companies. Another thing is small companies complain about time to go the funding application process

Participant P: It may happen that those companies did not apply for funding, and the other way to motivate to train is to fund them. It may happen that therefore that it is the lack of knowledge or it those companies that we may have not yet reached at all. You may find out that some of the companies are MERSETA levy paying and registered in our system but do not claim back so that they can get funding from those contributions

Participant Q: The small companies have a slight problem, their quality management system. I think they are not being honest with themselves, many people think it is an easy process to start training. They fantasize on the idea they have not really done research on

B. The three manufacturing SMEs say large firms train to earn BEE Scores? What is your view on this?

Participant J: That is true, the SMEs in our sector are predominately white owned, it like a family business. They cannot have someone who is dedicated to look at their BEE scorecard and so forth, and that remains a challenge because that is another way of accessing government funding

Participant K: I do not think that is true, for example, for a SETA big companies will get more money because they contribute more and SMEs will get less levies because they are contributing less. In addition, because on our grants regulations we also look at how much money we receive from you as a levy contributor

Participant M: That is a huge debate and there may be some relevance to what they express

Participant O: The attitude small companies got is that they are paying the skills levy as part of tax and that they seem not much interested in training. When you explain to them, they tell you they going to train this person and we going to lose him after training him. That is what I normally get from small companies

C. What is the role of SETAs in terms of funding SMEs?

Participant J: We have within the seta, the MERSETA particularly in the program implementation through the region where we provide the support and capacity for SMEs but it is not enough and adequate. Sometimes, for example you would find that SMEs can be funded for 3 learners in learnership or apprentices but you will find that some of them cannot finish off their program because they do not have dedicated people who can mentor those learners it becomes a challenge.

D. Is it true that manufacturing SMEs have poor training centres/equipments?

Participant K: Generally, true because with SMEs it is like they are running a very tight business that does not make big profits. So the investment to rather enhance their own equipment to allow them to afford proper training facilities, they do not have that luxury. For them they often miss the understanding of investment of training because the basis of their business is based on what services they offer and what money they make out of it. All this other training issues, financial management they have to outsource it because it is not their core business

Participant L: Generally, a small company will not have a training centre and even ten apprentices at a time, so you will get a small company not having a training department. You might even get that it is the owner or the wife who might be doing both the financial, the payroll, and the admin… all of that being done by one person. It not even small companies, even the medium companies might not have their training centre

Participant M: For people to train in the workplace there is a whole workplace approval processes specifically in the artisan context… and some business do not have full time people to provide training because it could be too costly. Some you can actually share with a business down the road if you are looking at there are certain machines or equipment that needs to be used

Participant N: Given their nature, some of them will tell you that for us is just to do what we have to do but we do not have the luxury of having a training facility…

E. Is learner attitude a problem in manufacturing SMEs?

Participant K: it a general problem but often big firms deal with that problem by putting money to sort of do diagnosis assessments where they also measure or psychometric and whatever assessment that they do to check the attitude of the learner. Moreover, SMEs will not have that luxury of time or resources to do those proper assessments, evaluations, and selection.

Participant L: That is very true; in the previous projects that we have run our experiences will be exactly that. Firstly, I think the main thing would be the socio-economic crises that we facing in South Africa. For instance, you would get people that are very poor and they cannot be choosey, and as such, they do not have vocational identity, you find that they do not even relate to the trade they apply for. The negative attitude comes in when they realize the trade is different from what they expected … with so many companies that we have dealt with in our previous projects that is very common

Participant O: There I can agree with them, for some of us that are doing inductions we are telling them to respect their mentors

Participant P: I agree but on certain conditions, my first that most of the students who are from the college especially those who have N6 or N5 and so on. They are being ill-treated by the company or the mentor and specifically white men who are not qualified, they don't have those types of qualifications. So when these learners come there they are a threat to them. So that is why I don't agree with them that those learners are not prepared to learn, because those learners are there to learn and they are being mistreated by people who are going to be used as mentors. Moreover, people who are mentors do not even have skills to be mentors, to treat a learner… and some of our learners, unlike before, they don't accept such a treatment

Participant Q: You find that many young people they are taking careers that do not really mean much to them, for them it is just a job opportunity. Therefore, if you take a job just as a job opportunity because you know the result is money, you will end up with problems like that… I put the blame of lack of career guidance on the individual

F. The three manufacturing SMEs raise concerns about Absenteeism/Dropouts, is this common problem?

Participant M: If this is the medium size businesses, than their recruitment and selection process needs to be looked at, they must not blame the student or the learners. This problem is across the entire learning context. The issue of maths and science is linked to academic ability but that does not say anything about the selection of the students and the criteria to fall into a particular workplace. For me I would rather like to turn that around by saying that businesses need to be more specific about their selection and recruitment and in terms of what is the characteristic and the profile of the students that will fit their businesses instead of blaming the TVET colleges

Participant P: Yes, there is no motivation at all, the companies do not know how to motivate learners, and they do not even support the learners during the training. Sometimes you may find it as a shock as I am telling you know about the N6 and N5 students being a threat. The majority of the companies do not have a plan to train apprentices, even the big companies. They do not have a training plan for learners and just train haphazardly. You find that as an apprentice you find yourself in a company doing labour work that de-motivates the learner. A proper training plan stimulates the learners and motivates them

Participant Q: I mean the reason why students would be absent from something, that would mean you have interest in something else and you rather forced to do something. Remember also our poverty level is increasing as well; something which is becoming very peculiar along the way is that young stars they are getting into trade because there is that element of the stipend and unfortunately most young stars have got a lot of things in their shoulders in terms of family responsibility

G. Does training disturb the firm's production process?

Participant J: That is a general problem. What causes the problem is that learners are not well prepared or trained. But it is not something that can be generalized because if you go to the large companies, if a learner who got resources go to the training site then when it comes to the production line. The contribution becomes positive but a learner in the SME just does a touch and go, the basics, and the SME expect to get something positive out of that learner which will not be possible. That one is two folds, one it depends on the character and behaviour of the learner but at the same time the quality of the training that was given when this learner came into the world of production. The large companies got dedicated training sites

Participant K: For SMEs there is a disruption, for instance, most SMEs have a core business of making money. Now the moment they need to have apprentices in the workplace it has to be a minimum number so that it does interrupt not with production.

Participant N: Certainly, it is true, we do have such cases… as I have said, given their size and given their resources, they do not have training facilities to employ, additional staff members that would be

dedicated to training. Some of them are family run entities, where one is a human resource person, director, marketing, and stuff like that. However, we do have industry led training providers, for example, employer associations that have arrangements with training centres which are there to accommodate those SMEs which do not necessary have training facilities

Participant O: For any company, if you do not train your staff how would they be able to be competent to do what you want they do. Training is the integral part of any company. For a company to sustain it existence it should have qualified and competent employees. The problem is how to balance production and training. So training can interrupt with production if there is no proper balance between the two. If again, the mentors are not trained, mentors must be well trained and have a training plan. Are the mentors qualified as mentors, do the know how to train, do they understand training as mentors…

Participant P: It a challenge to all of the SMEs because as an SME, you do everything. In a small company you are a human resource manager, you are a director, you are a financial manager. For skills development, we advise them, for example to appoint their receptionist as a contact person for skills development for MERSETA

H. Mathematics and Science

Participant O: The failure according to me, I have been interviewing them even the learners themselves; it is the issue of time. They arrive home tired and must go to learn, and that why is hard for them to grasp that particular knowledge, especially the N studies. But they can send the learners to the training providers; it is going to be easy because there it is part of their trade. The companies must do an assessment of learners in order to see if they are going to cope. It is more or less on the company side the type of learners they are recruiting, and their recruitment policies. What they can also do to prevent the failure rate is to provide the learners three months probation before they can actually take them

Participant P: No, as MERSETA we are very strict on that to say any learner that is going to an apprenticeship he or she must have a pure mathematics, because we know most of the learners drop maths at grade 9 and start with maths literacy. We do not even accept that.

I. Career guidance

Participant J: That really the truth, the problem is bigger than that. It is not a problem that can be addressed by the SETA, TVET but can be addressed by maybe all the partners or stakeholders in skills development should come together and participate in skills development. Remember, there are different issues of career guidance and career awareness and so forth but the problem start at the primary level. The same problem that SMEs have, TVET will tell you they have the same problem. In addition, that is not something that you can address overnight, it start with the nature of the curriculum at the primary level, and it proceeds as such. The lecturers themselves at the TVET are not technically inclined… hence, the problem is much bigger.

Participant K: we offer career guidance to schools not to the employer… we run career guidance events though high schools… part of the problem also is in some cases the students are not trained by people who come from the industry

Participant M: That is often the case, that you do have many workers who have been in the work context in that workplace for an extended period and they are actually skilled but may not have a piece of paper that validates their skill. Whereas, you can come in with a 20 year old who may have a piece of paper but with no experience and sometimes it is then where attitudes come in. In addition, you see again I am a bit sceptical about 'negative' attitudes because the attitude of people in the training context or work context largely depends on how people are managed. So it not necessary to say all young learners coming into the work place training context are negative, you will always find in any learning context whether it is university or wherever it may be, you will always have people that may have a negative perception. In addition, the facilitators are trained on how to train than they might not experience this.

Participant N: Certainly that is true, it is a general concern given the nature of our education. You get kids from high schools not even knowing when they complete their matric, whereto. Some per chance say they can go to a TVET college and I can pursue a trade qualification and be employed if fail to go to university. Yes, career awareness opportunities have been lacking for some time but this is one strong emphasis that we as MERSETA, probably even in other SETAs. We are venturing into that space, from partnerships with the technical schools, with the TVET colleges and to avail ourselves during TVET College and university open days… we got partnership arrangements with TVET colleges where there will be lecturer development programmes

Participant O: They are giving the college their responsibility… but than that is what we as SETAs need to do. We need to go at schools and ensure that learners are becoming aware of the trades. It actually a problem in the whole country, learners does not know about trades. Maybe colleges should include the component of career guidance and they need to expose these learners to different companies as part of their learning**.** But in terms of the recruiting they must ensure that they recruiting the right people

Participant Q: Career guidance must not start at the FET College because that would be already late, it should start at secondary school. As a learner, the moment you start your grade 8, you should know what you want to do

J. Gender

Participant J: It is not only with the SMEs, even with the large companies and it goes with the traditional stigma to say that the trades are made for males. That thing is still there, for example, it goes back to career awareness and career advice at an earlier stage. It is only females who would say they want to be motor mechanics or want to go into trades; it like when they have found that there is nothing else that they can do, that is only when they tend to go there. Nevertheless, it is something that has been a culture to say that trades are made for males at the starting point. Coming to the SMEs, it is also two folds, there is a belief that women cannot carry heavy loads and that if we take a male, he will quickly adjust and be more productive

Participant K: Gender is an issue. Women cannot do some trades. In addition, the industry has not transformed. It comes from legacy. Some argument that employers put is that the moment there is a female who works on the shop floor there is interruption with the production because you know how men behave; she will be like a flower attracting bees. There is also pregnancy that is not well timed

Participant M: There is no gender equality in most of the manufacturing engineering context. However, I think there is a significant effort to increase the gender balance. Other classic types of reasons there are gender equalities it often the physicality that some of these environments require or its dangerous environment… for me what is the important thing is that the companies that you have interviewed experienced awareness. I do not see it as necessarily as a negative thing

Participant N: The challenges faced by the SMEs are too a large extends because of lack of resource and infrastructure that would be so accommodative. They are working on a very thin budget. However, there are endeavourers even from government to begin to open things like industrial parks that will have all the resources you would expect, particularly be sensitive to gender issues and even sensitive to people with disabilities

Participant O: I have a company that was actually taking only men but now they took a female. I went to do and told them they can take a female because of gender equality in nowadays. I said females could be apprentices, I have seen them all over the country. Sometimes it becomes a perception that this is a man's world. In some instances, you will find out that some of these small companies it a family business and they will tell you they are training in a family perspective so they will not allow to train people outside the family

Participant P: That one is general; most of the companies do not employ females especially in the engineering field. In addition, they have their own reasons as they have told you but you may find that it is across and to those who are employing female apprentices, they employ them for the sake of triple BEE, not to say it was according to their original plan because the equity Act has forced them to do that. Nevertheless, some companies which have already started recruiting female apprentices have later on realized women can really do something in engineering. Even in large companies, you will find that there, a few which employ female apprentices

Participant Q: I think many companies are trying to deal with this gender issue, where they are trying to employ many ladies. The health issue could be a challenge that some people are facing as well. For example, I was working in a mine before and I think in that era they were trying to introduce many women in the artisan pool because obviously there was a request. Moreover, I think there is a BEE score points you get as well for that but for many people it was not for BEE, they had to comply. I remember the supervisor was complaining, he had about five girls in that plant and all five fell pregnant. Moreover, the moment you get pregnant in a mine or a technical field you have to be pulled off because the risk factors become more. Therefore, many people are refraining in the engineering sector because of that issue

K. Race

Participant J: Race differs from one area to another, my personal observation is that there are some SMEs that are owned by white males who would like to keep that because you would find that it is a family business and the son will be trained in that and automatically will take over from the father. The contributory thing is the triple BBE, to say that if I train more blacks I will be able to meet my scorecard. However, not all the SMEs will be in that way, it will differ from one to another. Others might have the preferential to say whether they train or not as long as I keep transferring the skills to my family, so they train the white. Even if there are opportunities, for example, they have 3 or 4 apprentices, he can have 3 whites and 1 black but the quality that he will be getting will be different. So will be like a glorified labor in there.

Participant K: It demographic, you find that black males are the ones looking for jobs and therefore they are the ones in higher numbers, so they are the likely ones to be employed or trained

Participant M: Overall, it is right… broadly it is the case (gave recommendations)

Participant N: It in few SMEs where you would find white apprentices… it a general problem. However, those are issues that the government and the SETAs are begun to address. One of the things that we do as SETAs is also to drive transformation…

Participant O: It actually the opposite, I've got companies that were only training white but now they are training blacks because I have talked to them. It goes back up to the knowledge thing. It goes with the perception again, small companies will tell that the majority of us white people are being disadvantaged so we need to try and cater for anyone who is disadvantaged in terms of race, so they are not as much open as the bigger companies. Their main is to cater for the disadvantaged white people

Participant P: Yes, because they need to comply… some of them they would recruit African male apprentices because they have a tender. I remember one of the companies, they went to North West to get their tender, and after they got the tender, one of the conditions to get a tender was that you must train the black youth in their community. They took them and placed them in the apprentices and as soon as their contract ends, they dismissed them without finishing and the learners run and come here at MERSETA

Participant Q: That is becoming an issue as well because the other races, especially the white race they use to dominate the engineering fields… but the way of seeing is that it is the requirements that have become tighter than before… and it seems as if the black young stars are excelling more in maths and science

L. Workplace training in the three manufacturing SMEs creates employment, what is your view?

Participant J: I cannot confirm, however, if one could generalize looking at the sector then maybe they train based on the need. Where else in the big companies they might train more than their need because they have specific training facilities

Participant K: I would not know but the trend that I have observed between large companies and SMEs is that large companies train large numbers but they do not absorb large numbers then SMEs usually train small numbers but it is based on the need.

Participant O: Yea, in most cases because they are small companies, they like to keep their skills unlike the big companies. They hire the apprentices because that is also going to boost their sustainability.

Participant P: No, I can say 85 per cent or more than that of apprentices who are being trained in most of the organizations, they are not absorbed by those organizations. The main thing for the organizations is to comply. Therefore, they train them, after they have trained them they release them because they just need to comply not for employment. It is few of them and you can name them… especially in the big companies… they do not employ apprentices.

Participant Q: Yes, because majority of the companies would rather employ someone they have trained

M. How representative are the findings from the three manufacturing SMEs to the broader population of manufacturing SMEs?

Participant N: The big establishments will have all these resources, some of them are even funded, and some of them they have brilliant social investment projects. What I have also seen from these big entities is that some of them open their doors for SMEs for training purposes… they can contract with SMEs to place their learners for training purposes and workplace based exposure

Participant O: I do not think they are representative because of your sample size is not enough. Secondly, perceptions of employers differs in each area

Participant P: The findings are similar

Participant Q: They are not representative… some of the challenges they have raised are individual issues

N. Are the constraints found in the three manufacturing SMEs interviewed, unique or typical to the manufacturing SMEs that you engage with?

Participant J: The outcomes are very much applicable across

Participant K: Typical

Participant M: They are typical with many perceptions… so it may show a broad correlation. On the other hand, one needs to take in account the social economic circumstance in which business has to survive at this time, specifically with the economy being a junk status. The emphasis is often on survival and training does then often not top of any agenda

Participant O: It is not unique; the companies need to have the SDFs. The key here is knowledge; they must get somebody who knows about training. It is the matter of the SDFs, the mentors, and the buy-in of the top management into training. These are key things

Participant P: much common, typical

Participant Q: Typical

O. Are there any other constraints experienced by the sector which are not mentioned by the three manufacturing SMEs?

Participant J: The ones that you have interviews they have fairly covered generally all the challenges that are being experienced. Generally, the one specific is the issue of their capacity with the provision of training that is something that is not their focus.

Participant K: You find that someone who is not qualified owns a business and therefore they end up not having the capacity or not meeting the requirements to be funded

Participant N: The other challenge is ignorance, because there are opportunities but if one does not know about them, one might think such things do not exist. Even though there are attempts to reach out,

or maybe those institutions that are suppose to do that are not doing enough to market themselves and ensure visibility

Participant P: The higher rate of retrenchment or absconding in the SMEs… some of the challenges is the dismissing or firing of the apprentices by the companies. For example, in these companies, you do a slight mistake and they fire you. One of the learners, he came at work and when he arrived there, they said to him they didn't have work for him that day go and clean the stairs there. He went and cleaned the stairs and the employer told him he does not listen and he was aggressive to the learner… when he reported to the matter he was fired from the company

Participant Q: Yes, there are… you may find that there are some people who are still caught in an era where they do not want to share knowledge and so now you are forced to have the wrong guy providing training and the right guy might be there but he does not want to share knowledge. In some instances, you may have someone with knowledge but tit does not necessarily mean they can part off the knowledge to someone else

P. Are these challenges specifically for the manufacturing SMEs or do they apply to bigger companies as well and ones that are not involved in manufacturing?

Participant J: No, they are not specifically for manufacturing SMEs but it terms of resource and funding it becomes a different issue because large firms have a dedicated Skills Development Facilitators and training committees

Participant K: No, large companies are well better organized because they have financial budget and they know how to calculate return on investment

Participant N: These challenges are typical to SMEs largely, particularly in the manufacturing sector

Participant O: Large companies have the human resource department that is taking of whatever the small companies do not have. Remember, having human resource department is key for training

Participant Q: It also applies to bigger companies, not just small companies…

Q. Is the SETA able to help in addressing these challenges?

Participant K: By categorizing companies so that we ensure that, even the small companies will get the piece of the pie in terms of the grants provided they comply

Participant M: In projects, we are working in partnership the DTI and as well the department of small businesses and all their agencies

Participant P: The SETAs need to review their policies because sometimes when we intervene we talk something that is in our minds or the way we feel for the apprentices. In addition, when the company says give us this in writing it is not there. Our policies need to be reviewed in terms of training, especially on how they should review it. To ensure that the training of apprentices is effective in the workplace and is monitored, even our monitoring of learners in companies is poor. There is no policy to protect the learners when they are in the workplace to ensure that they achieve their objectives in the company. That why you can find out they drop out

Participant Q: The SETAs, including us we are doing our best to conquer those challenges

R. How possible is it to eliminate these challenges?

Participant J: The strategic issues that one would suggest are the issue of resource sharing through the support of the SETAs and the government. For Instance, 3 to 5 SMEs can have at least one Skills Development Facilitator to assist them. In addition, a situation where they can have someone who can be able to monitor. The SETAs can also strengthen the monitoring and evaluation because funding does not cover everything. Career awareness can be address not only by the SETAs but must start at the government i.e. the curriculum and work exposure not even at TVET level but as early lower grades. Moreover, we need to start professionalizing our technical fields

Participant M: It an ongoing process, you do not necessarily resolve it… it kind of flows and as technology and economic circumstances changes and so forth. It also influences the outcomes of training apprenticeship training and any other form of training

Participant N: Majority of the SMEs do not belong to SME associations, for instance organize themselves into a particular collective so that they can as a collective, sit down and identify their needs and whatever their challenges and approach relevant institutions for assistance

Participant O: What we can do as SETAs according to what I've seen is to have more workshops with these companies, to have more SDFs training… maybe four times a year we can have the workshops according to the area… sometimes you invite these small companies and they don't even come, they say they are quite busy

Participant P: It is possible to eliminate these challenges

Participant Q: It is possible so long as people have the understanding of what they are doing and everyone cooperates

S. Is it common for manufacturing SMEs to have a high preference for apprenticeships compared to learnerships? If yes, what are the reasons?

Participant J: SMEs prefer apprentices to learnerships, because for example, if they get an apprentice with already N2 it does not become a requirement must go and get an institutional knowledge or theoretical training. Where else with learnerships it becomes more of paper work and so forth. It becomes more problematic for them

Participant K: Apprenticeship training for SMEs is based on the legacy

Participant M: In business, whatever the firm size… the learnerships are more holistic and their focus is set part, more components focusing on life skills and life orientation. While apprenticeships are very job focused and which sometimes makes it easier for medium and small business because they do not have the capacity to look at the more holistic sides

Participant N: No, we are already going to a situation where now we want to demonstrate practically that there is a thin line between learnership and apprenticeship. Because even for apprenticeship, it is going to be modularized kind of training same way like learnerships

Participant O: Remember, in small companies the owners where apprentices because learnerships came later on. Therefore, they are training according to their expertise that's why they value the apprenticeships. Learnerships also has a lot of paper work, which means they are going to take more time and they will need more skills to train

Participant P: Yes in our sector, they say there is a lot of paper work in learnerships, so they avoid that. Between the learnerships and the apprenticeships, there is no difference. If you have a plan, it is a structured planning. It should be structured and formal, so in apprenticeship because there is poor monitoring of the whole process you can get away with anything

Participant Q: A lot prefer learnerships actually, remember manufacturing industry normally prefer learnerships because their manufacturing usually lays within the learnerships programmes. Moreover, with learnerships programmes you can target what you need. The only guys who might need the apprentices in the manufacturing industries is the maintenance, the supportive service

T. How productive are the connections between TVET Colleges, the SETA and the SMEs that provide training? Are there difficulties? If so, how can they/how are they being addressed? Do you have examples of where these relationships work well and what seems to make them work?

Participant J: Currently, there is some improvement but it is not where it should be, there is still room for improvement. In some instances, it is a "them" and "we" and that "we" are doing the right thing and "they" do not want to support us. On the other hand, "we" are supporting them but "they" do not provide us with quality people. They are more interventions now that pushes the SETAs and companies to start work together.

Participant K: It is not that good because part of the problem is that even in our engagement with the employers, you will often find that the participation of SMEs is limited and they barely participate in meetings. We try to reach out to them but they don't have capacity… the CLO are there to support the SMEs and we meeting the targets

Participant M: Currently, just in my project we have about a hundred TVET contracts of which we are training about a thousand learners in industry through the TVET colleges… we have large relationships. The difficulties vary from rural context to urban context, it vary geographically as well… we are embarking on a very big study just as a MERSETA and through the outcomes, we can actually use that for further decision making of where there may be challenges… We have been working with many TVET colleges where there is a direct relationship with businesses, big or small, and MERSETA

Participant N: What we have been doing even though it is still a process, we have interventions with TVET colleges, and we have committees formed by companies across the spectrum from a small employer, medium size, large and so forth. And we try to package our benefits in a manner that it suits our range of client base… we do have example where these relationships have worked well, for example, we've got TVET industries and SETA partnership arrangements

Participant O: They are many difficulties, we had the project with the TVET College and the success rate of students was very low. The TVET colleges in terms of the trade, some of them you will find that they don't have people with trades there and it is only lecturers who have done N studies… that's why we have a lecturer development programmes. The other thing is the resources in terms of the projects, the people in their project departments do not have knowledge of SETAs and training, and they have

done only teaching and therefore they battle in terms of understanding on how SETAs work. But we are helping them in bridging that particular gap, that's why in MERSETA we have TVET projects where we fund colleges to place learners in companies and we facilities that process

Participant P: There are many challenges, for example, based on the SETAs… projects need to be better structured so that we can look back and re-evaluate and fix the problems we experienced.

Participant Q: As of recently, those partnerships are being strengthened because they are required to be. Without those partnerships the industry is not going to function and the enter process is not going to work. And yes there will be hardships because the lecturers initially put in TVET colleges were just lecturers and that strong theoretical knowledge but the practical was lacking but now that they are integrating with the industries and trying to let those guys understand the practicality of what they are teaching it becoming more easy for the partnerships to work well.

8.6 Appendix F: The categorized and developed themes emerging from the three manufacturing SMEs research interview

SUB-RESEARCH QUESTIONS	INTERVIEW QUESTIONS	THEMES	SUB-THEMES	EMERGING PATTERNS
WHY DO MANUFACTURING SMEs PROVIDE APPRENTICE AND LEARNERSHIP TRAINING?	• Why does your firm provide apprentice and learnership training? • Does your firm experience skills shortages? • Are you providing alternative training besides formal training? • How important are these alternative forms of training in the firm compared to formal training?	• Apprenticeship and learnership training • Other forms of training • Skills shortage	• Company costs • Technical skills • Training incentives	• Giving back to the community • Incentive to the firm • Technical skills are scarce • Training in the firm • Training schedule • Saves the firm money
WHO RECEIVES TRAINING IN THE MANUFACTURING SMEs?	• Are any of your employees currently receiving training beside apprentices and learners? • What is the typical estimated time to complete a full apprenticeship and learnership qualification? • Do apprentices and learners complete their training on time?	• Employee training • Apprenticeship and learnership qualifications	• Race, age and gender • Qualification duration • Student Capability	• African male, 18 - 26 years • Failing the trade test • Difficulty with theory • Apprentices' capability
WHAT ARE THE TRAINING CHALLENGES EXPERIENCED BY THE MANUFACTURING SME FIRM?	• Are there apprenticeship and learnership training challenges experienced by the firm? • How is the firm addressing or rather planning to address apprenticeship and learnership training challenges? • Does the firm have apprenticeship and	• Training challenges • Training budget • Government incentives	• School Subjects • Solutions to training challenges • Relationship with the SETA • Government incentives challenges	• Maths and Science • Financial struggles • SETA relationship • No struggle

	learnership skills training budget? • Are your aware of and using any government incentives for apprenticeship and learnership training? • Can government incentives be made more effective for SMEs? What would assist you to do more training (formal and informal)?			
WHAT IS THE RELATIONSHIP BETWEEN APPRENTICE SKILLS TRAINING AND EMPLOYMENT IN THE MANUFACTURING SME?	• How has apprentice and learnership training impacted on your firm's productivity growth? • How many of the apprentices and learners have been employed into the firm after training? • Why do apprentices and learners get employed by your firm? • For those that do not get employed, do you know where they go afterwards? Do you do follow ups? • Are there any concerns that you have identified not only in your organisation but with SME's in general, that remain a barrier to workforce training? • In your opinion, what factors do you believe can lead to successful workplace training in SMEs? • In your opinion what makes SMEs workplace training different from large firms? • How flexible is the training system? • Do you think there will be anything else that you think would be	• Productivity growth • Employment • Training barriers • Successful training • Training flexibility • Employer/ training supervisor perspectives on large firms	• Student Capabilities • General challenges • Recommendations • Difference between large firms and small firms • Flexible training	• Apprentices know the work environment • Apprentices get employed • Career guidance • Apprentice attitude: absenteeism and drop out • Close interaction between apprentice and trainer

	helpful for me to better understand skills development in SMEs?			

8.7 Appendix G: Participant consent form

Please fill in the reply slip below if you agree to participate in my study called: **the factors that lead to successful training and skills development of Small, Medium and Micro-sized Enterprises**

My name is:

Permission to be audiotaped

I agree to be audiotaped during the interview
YES/NO
I know that the audiotapes will be used for this project only
YES/NO

Permission to be interviewed

I would like to be interviewed for this study.
YES/NO
I know that I can stop the interview at any time and don't have to answer all the questions asked. YES/NO

Informed Consent

I understand that:
My name and information will be kept confidential and safe and that my name and the name of my organization will not be revealed.
I do not have to answer every question and can withdraw from the study at any time.
I can ask not to be audiotaped

All the data collected during this study will be destroyed within 3-5 years after completion of my project.

Sign_____ Date_____

8.8 Appendix H: Letter to the firm

DATE:

Dear (NAME OF THE FIRM)

My name is **Sindiswa Msomi** and I am a **Masters student** in the School of Education at the University of the Witwatersrand.

I am doing research on **Training and skills development for technical employees in the manufacturing Small, Medium-sized Enterprises (SMEs).**

My research involves an **audio-recorded, semi-structured, face-to-face interview and background questionnaire.**

The reason why I have chosen your organization is because **your enterprise has between 50 to 200 employees, provides technical skills training to employees, and is registered with the Manufacturing, Engineering, and Related Services SETA (MERSETA).**

I am requesting your mentors/supervisors to please assist me in my research study by providing their views on what factors lead to successful training programmes, and share any knowledge they have on how training has impacted on the firm.

The research participants will not be advantaged or disadvantaged in any way. They will be reassured that they can withdraw their permission at any time during this project without any penalty. There are no foreseeable risks in participating in this study. The participants will not be paid for this study.

The names of the research participants and identity of the enterprise will be kept confidential at all times and in all academic writing about the study. Your individual and firm privacy will be maintained in all published and written data resulting from the study.

All research data will be destroyed between 3-5 years after completion of the project.

Please let me know if you require any further information. I look forward to your response as soon as is convenient.

Yours sincerely,

SIGNATURE

NAME
ADDRESS
EMAIL
TELEPHONE NUMBER:

8.9 Appendix I: Information sheet participants

DATE:

Dear (Participant)

My name is **Sindiswa Msomi** and I am a **Masters student** in the School of Education at the University of the Witwatersrand. I am doing research on **Training and skills development for technical employees in the manufacturing Small, Medium-sized Enterprises (SMEs).**

My investigation involves **audio-recorded, semi-structured, face-to-face interview and background questionnaire.**

Would you mind if you can assist me in my research study by providing your views on what factors lead to successful training programmes, and share any knowledge you have on how training has impacted on the firm.

Remember, **your participation is** voluntary, which means that you don't have to do it. Also, if you decide halfway through that you prefer to stop, this is completely your choice and will not affect you negatively in any way.

I will not be using your own name but I will make one up so no one can identify you. All information about you will be kept confidential in all my writing about the study. Also, all collected information will be stored safely and destroyed between 3-5 years after I have completed my project.

I look forward to working with you!

Please feel free to contact me if you have any questions.

Thank you

SIGNATURE

NAME
ADDRESS
EMAIL
TELEPHONE NUMBER

8.10 Appendix J: Ethics clearance letter

Wits School of Education

27 St Andrews Road, Parktown, Johannesburg, 2193 Private Bag 3, Wits 2050, South Africa. Tel: +27 11 717-3064 Fax: +27 11 717-3100 E-mail: enquiries@educ.wits.ac.za Website: www.wits.ac.za

06 October 2017

Student Number: 902925

Protocol Number: 2017ECE010M

Dear Sindiswa Msomi

Application for Ethics Clearance: Master of Education

Thank you very much for your ethics application. The Ethics Committee in Education of the Faculty of Humanities, acting on behalf of the Senate, has considered your application for ethics clearance for your proposal entitled:

The factors that lead to successful training and skills development of Small, Medium and Micro-sized Enterprises

The committee recently met and I am pleased to inform you that clearance was granted.

Please use the above protocol number in all correspondence to the relevant research parties (schools, parents, learners etc.) and include it in your research report or project on the title page.

The Protocol Number above should be submitted to the Graduate Studies in Education Committee upon submission of your final research report.

All the best with your research project.

Yours sincerely,

M Mabeta

Wits School of Education

011 717-3416

cc Supervisor - Dr Lynn Hewlett

8.11 Appendix K: Participants' occupations

THREE MANUFACTURING SMES	MERSETA SKILLS DEVELOPMENT EXPERTS
Participant A – Engineering manager/training supervisor	**Participant J** – Senior Manager- Strategic Planning
Participant B – Engineering manager/training supervisor	**Participant K** – Quality Assurance & Partnerships
Participant C – Human resource manager	**Participant L** – Manager – Special Projects
Participant D – Human resource manager	**Participant M** – Manager - Chambers
Participant E – Engineering manager/training supervisor	**Participant N** – Applied Research and Innovation
Participant F – Engineering manager/training supervisor	**Participant O** – Client Liaison Officer
Participant G – Human resource manager	**Participant P** – Client Liaison Officer
Participant H – Foreman	**Participant Q** – Client Liaison Officer
Participant I – Engineer/training supervisor	