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Learning Experiences of Female Artisans in the Automotive Industry

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A research report submitted to the School of Governance, University of Witwatersrand, in partial fulfilment (25%) of the requirements for the degree of Master of Management (Public and Development Management)

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Abstract

Gender inequality persists in artisan employment in South Africa as males continue to outnumber females significantly in artisan employment and the trends point to highly gendered industry participation. Females who manage to enter artisan occupations in the highly gendered workplace are faced with historically ingrained attitudes of males towards females. Discriminatory practices, social norms and persistent stereotypes shape the females' learning experience.

Therefore, the purpose of this research is to explore the learning experiences of female artisans in the South Africa automotive industry, during the work-based phase of their apprenticeship. A qualitative exploratory research study approach was adopted using semi-structured face–to-face interviews. Fourteen female apprentices, learnership candidates and artisans were interviewed, including two industry training experts. Purposive and snowball sampling techniques were used.

The findings revealed that the general experiences of the female participants were challenging. The quality of learning they received is not equal to that of their male counterparts and the workplace culture consists of prejudice, gender discrimination, racial discrimination, stereotypes and barriers to employment. Interestingly, the participants were uncritical of the experience of gender discrimination, although, they were very critical of racial discrimination. This suggests a need to conduct and create awareness sessions about gender discrimination in the industry for both genders.

Declaration

I declare that this research report is my own unaided work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management (in the field of Public and Development Management) in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.



Thandokazi Ndileka Teti

December 2016

Dedication

I dedicate this work to my mother and mother-in law. MamQwashu, Push girl, Nobomvu, Tall Girl, if it had not been for you, I would not be here. You and Mangwevu, epitomise the saying that "Ndingafundanga nje, ndakubafundisa abam abantwana". I bow with gratitude for the strength you showed, the drive to transform and better the lives of your children. What you gave us in education is a heritage no one can take away.

To my Lord, *In You I trust*, you have never let me down.

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I thank all the female artisans, learnership candidates and apprentices for participating in the research. Without them this thesis would not have been possible. I wish those who are still to write the trade test best wishes and strength in pursuing their dreams.

Lastly, to my support network, which included my family, friends, my fellowship groups and classmates for your support and motivation throughout my Master's degree, without you, once again, I might have never made it.

Umntu ngumntu ngabantu

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Glossary of Terms

Artisan: An artisan is a person who has been certified as being competent to perform a listed trade (Department of Higher Education and Training [DHET], 2013 b; DHET, 2014).

Automotive sector or industry: The sector includes companies linked to each other through the automotive production and distribution value chain, such as the local Original Equipment Manufacturers, the New Tyre Chamber and Motor Chambers (Manufacturing, Engineering and Related Services Sector Education and Training Authority [merSETA], 2015).

Organisational culture: Is described as a set of beliefs, values, and assumptions that emerge from the interactions of its members. Members of the organisation must cooperate in order to carry out the task of the organisation while competing amongst themselves for limited resources, status and career opportunity (Kvande & Rasmussen, 1994).

Technical Vocational Education and Training: Formerly known as the Further Education and Training in South Africa, this is defined in a number of ways; however, what remains constant in the definitions is the intention of vocational education and training, which is geared towards developing practical skills for the world of work (Demirbilek, 2010; Kennedy, 2012; Mupinga & Livesay, 2004; Okolocha, 2012; Rahman, Hanafi, Mukhtar & Ahmad, 2014; Wallin, 2010).

List of Abbreviations

AIEC	Automotive Industry Export Council
ANC	African National Congress
DHET	Department of Higher Education and Training
FET	Further Education and Training
HSRC	Human Sciences Research Council
merSETA	Manufacturing, Engineering and Related Services Sector Education and Training Authority
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturer
RSA	Republic of South Africa
SA	South Africa
SETA	Sector Education and Training Authorities
STATSSA	Statistics South Africa
TLRP	Teaching and Learning Research Programme
TUC & YWCA	Trade Union Congress & Young Women's Christian Association
TVET	Technical Vocational Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organisation

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Chapter 1: Introduction

In South Africa, the labour market has very few female artisans despite the improvements seen in the education and training value chain. The legal framework that seeks to regulate equality in the workplace and occupations such as Employment Equity Act No. 55 of 1998 has failed to increase the number of female artisans substantially. There are general challenges identified in the South African artisan development value chain and there are those challenges that are particular to female artisan development.

These challenges include, but are not limited to, females' perceived capabilities, gender traditional role, lack of interest, established attitudes, gender biases, social norms, gender discrimination practices, persistent stereotypes that shape the access to opportunities in the labour market (Martin & Barnard, 2013; Statistics South Africa [STATSSA], 2013). These challenges affect their learning, completion rate, retention, career success (Martin & Barnard, 2013) and ultimately the country's transformation agenda within the artisan occupations.

This research focuses on learning in a highly gendered workplace and the challenges experienced by female artisans in those workplaces. As a result, the study aims to contribute to the existing knowledge on women in trade and their experiences. It hopes to assist government, skills developing agencies and industry to attract and retain a greater number of women in the artisan trade.

1.1 The context of the study

In South Africa, the artisan occupations are facing two important issues: the need for expansion and the need for transformation. Expansion is required to respond to the shortage of intermediate level artisan skills and transformation is demanded

by the constitution (Human Sciences Research Council [HSRC], 2014). In general, systematic progress is observed in the artisan development value chain as the government has managed to expand and increase access to education and training for all citizens. As a result, substantial progress is observed in terms of race. However, minimum progress is observed in terms of gender in the technical vocational education and training (TVET) system.

In terms of gender transformation, gender-related research in the artisan and the TVET system has shown an increase in the percentage share of female enrolment at TVET institutions and employment in the labour market. However, more still needs to be done to address the registration patterns of females at TVET institutions and the employment patterns of artisans in the South African labour market. These two patterns reveal that females are predominantly concentrated in 'female traditional' courses such office administration, finance, economics and accounting, despite the increases in the artisan orientated programme (DHET, 2013a), whereas males are four times more likely to be artisans than females (HSRC, 2014; STATSSA, 2013).

The most significant transformation challenges have been observed in the South African labour market. The statistics from DHET on artisan enrolment show that the country could be reaching parity in some artisan-related courses in the near future; however, labour statistics in the artisan employment show a female percentage share of artisan-related occupations of less than 5% (see Table 1 & 2).

Table 1: Enrolment patterns in artisan-orientated occupations in Public TVET colleges

	2010		2011		2012		2013	
	Female	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**
Report (N1 - N6)	46.9%	53.1%	46.2%	53.8%	49.0%	51.0%	49.4%	50.6%
NC(V)	48.5%	51.5%	51.5%	48.5%	53.7%	46.3%	56.2%	43.8%

Data Source: Adapted from HEMIS database.

Table 2: Artisan employment trends by South African sub-industry and gender, 2006 – 2011

	Gender	2006	2007	2008	2009	2010	2011
Extraction and building trades	Male	91.5%	94.7%	95.8%	93.4%	95.4%	95.8%
	Female	8.5%	5.3%	4.2%	6.6%	4.6%	4.2%
Metal, machinery and relate trades	Male	95.7%	90.9%	93.8%	96.2%	97.6%	96.7%
	Female	4.3%	9.1%	6.2%	3.8%	2.4%	3.3%
Precision, handicraft, printing and related trades	Male	79.1%	73.9%	71.4%	75.5%	69.6%	75.7%
	Female	20.9%	26.1%	28.6%	24.5%	30.4%	24.3%
Other craft and related trades	Male	40.2%	30.7%	41.2%	43.4%	47.1%	47.6%
	Female	59.8%	69.3%	58.8%	56.6%	52.9%	52.4%
Total crafts and related trades	Male	84.5%	82.9%	85.8%	86.5%	87.9%	88.7%
	Female	15.5%	17.1%	14.2%	13.5%	12.1%	11.3%

Data Sources: HSRC Review Volume 12 Number 2, APRIL/ May 2014, pg. 8 (HSRC, 2014)

The trends in the employment of artisans not only point to an unequal gender split in employment, but also to the highly gendered sub-industry[1] participation. The trends also raise interesting questions for further qualitative investigation, particularly concerning the experiences of female artisans in highly gendered occupations. Therefore, this study will attempt to review the experience of female artisan in a male-dominated industry. The selected industry is the automotive sector of South Africa, which is one of the key employment growth areas identified by government.

1.2 Background to the Automotive Sector

The South African automotive industry accounts for about 30% of manufacturing output, and consists of three industry clusters that are located in Gauteng,

[1] Sub – industry also known as a sub – sector, is an industry that makes part of a large industry. For example, the automotive sector is an umbrella industry of the following sub industries: Vehicle Manufacturer, the New Tyre Chamber, dealerships, components companies and vehicle maintenance companies.

KwaZulu-Natal and the Eastern Cape. It incorporates companies linked to each other through the automotive production and distribution value chain, such as the Vehicle Manufacturer, the New Tyre Chamber and the Motor Chambers. The majority of the vehicle manufacturing companies are found in the Eastern Cape, whereas the majority of the components companies are found in Gauteng province (Automotive Industry Export Council [AIEC], 2015; merSETA, 2015).

Table 3: South African Automotive industry clusters by Province

Province	Original Equipment Manufacturer (OEM) - vehicle manufacturers	Number of Automotive Components Companies
Eastern Cape	Volkswagen Group SA, Mercedes-Benz SA, General Motors Southern Africa, Ford Motor Company of Southern Africa engine plant	100
Gauteng	BMW SA, Nissan SA, Ford Motor Company of Southern Africa	200
KwaZulu-Natal	Toyota SA Motors	80

Data Source: Adapted from the South African Automotive Export Manual (AIEC, 2015)

Female artisans in the South African automotive industry work in male-dominated professions and environment. However, in the public domain there is limited statistical data showing the representation of female artisan, especially in the Automotive sector. According to merSETA, female representation of skilled agricultural, forestry, fishery, craft and related trade workers (of which the automotive industry forms part) is less than 7.5% female employees (merSETA, 2015). The skilled agricultural, forestry, fishery, craft and related trade workers is the occupational level at which artisanal trades are captured. Furthermore, the merSETA Skills Plan of 2015 shows racial disaggregation of the female employees in this category as follows: black females are in the majority at 68%, followed by white females at 15%, then coloured females at 12%, with Indian females representing 5% (merSETA, 2015).

A concern emanating from the research conducted in the automotive sector or in male-dominated industries across the globe relates to the underutilisation of female talent. This affects a country's gender equality performance and its, industrial and economic performance. Encouraging greater participation of females in a male-dominated industry does not only assist to address gender equality, but could also assist in addressing issues of skills shortage. In the case of South Africa, it could assist in addressing artisan skills shortage.

Globally, the automotive sector recognises this and wants to hire more women; however, the experiences of females in male dominated industries are reversing these efforts. Females are leaving male dominated industries (the automotive sector) because of the hostility towards them. It is therefore crucial to understand that filling the automotive pipeline of talent will not do much good for the automotive sector if women are leaving the sector. Consequently, it is important for South Africa to understand the experiences of females in the automotive sector, and the impact of those experiences on their learning, training and absorption into the sector, in particular, to female apprentices and learnership candidates, if the country is to address the skills shortage challenge.

1.3 Problem Statement

According the HSRC (2014), gender inequality persists in artisan employment in South Africa as men continue to outnumber females significantly in artisan employment. The trends in employment not only point to a gender unequal split in employment, but also to a highly gendered sub-industry participation, for example, females have the highest proportional representation in precision, handicraft, printing and related trades. Males have the strongest proportional representation in the metal, machinery and related trade sectors (HRSC, 2014).

In the case of females who manage to enter artisan occupations in the more male gendered industry, the historically ingrained attitudes of males towards females, discriminatory practices, social norms and persistent stereotypes shape the females learning experience. In South Africa, there is limited understanding of how female apprentices experience their learning in these highly gendered workplaces. Therefore, a study exploring the learning experiences of female artisans in a male-dominated industry is necessary.

1.4 Purpose of the study

The purpose of this research is to explore the learning experiences of female artisans in the South Africa automotive industry, during the work-based phase of their apprenticeship programme. This may assist in understanding the female specific challenges within the programme and assist skills development or training agencies, industry and government (from a policy perspective) in developing interventions that could support females throughout the artisan development programme.

1.5 Research Questions

In trying to understand the learning experiences of female artisans in the automotive industry, the following research questions were explored:

1. What are/were the learning experiences of female artisans in the automotive sector during the apprenticeship programme?
2. What were/are their experiences of the working environment, in relation to team interactions, support from colleagues, and feedback on their performance?
3. Do females experience issues of gender discrimination at any phase in the artisan development programme?

Chapter 2: Literature Review

The purpose of this chapter is to review the literature on how 'vocational education students' or apprentices learn in workplaces, particularly how female apprentices experience learning in highly gendered workplaces. This chapter thus, explores the theoretical framework for learning at work in highly gender workplaces for females. It also explores the nature of learning for females in highly gendered workplaces and how gender influences the females' learning, experience, opportunities and retention in artisan occupations.

2.1 A theoretical framework for learning at work as a female

There are many schools of thought on how people learn, that is, learning from experience, learning by reflection and learning through motivation and autonomy. A common thread throughout these schools of thought is that the individual learner is made to think deliberately about the experience in order to learn and the learner needs support from others (Little & Brennan, 1996; Mumford & Roodhouse, 2010). Importantly, learning at work is facilitated through the learner's increasing participation, both in and across social practices, and is profoundly influenced by the workplace cultural practices, norms, affiliations, cliques and demarcation (Tanggaard, 2006).

The situated learning perspective, is an evolving component or perspective of learning theories and is the theoretical framework for learning at work as a female, particularly in highly gendered workplaces or male-dominated workplaces. As a result, the situated learning perspective takes into consideration issues of gender and learning; particularly, the behaviour and attitudes of a specific gender in the workplace as an important aspect of learning (Nielsen, 2008; Tanggaard, 2006).

In situated learning, Nielsen (2008) and Tanggaard (2006) both argue that social practice in the workplace is gendered (Nielsen, 2008; Tanggaard, 2006). The social practices encountered by female apprentices in gendered workplaces shape their perceptions of themselves, their identity, potential participation and ultimately their learning. Section 2.2 below, will explore the nature of learning as an apprentice in the workplace, and identifies the factors affecting learning as a female in gendered workplaces.

2.2 The nature of learning as an apprentice

The literature argues that most learning takes place through work processes and is triggered by challenging work and by consulting or working alongside others (Billet, 2002; Dagsland, Mykletun & Einarsen, 2015; Eraut, 2007; Teaching and Learning Research Programme [TLRP], 2007). According to Pratt (1992), cited in Guile and Young (1998), learning at work for apprentices involves four main elements, namely, the apprentice as learner; the idea of trade or craft knowledge as fixed and unproblematic; the master as a teacher; and the idea that learning in workplaces is a form of context-bound understanding not conducive to transfer (Guile & Young, 1998).

In addition to the four elements, there are factors, affecting the learning experience of apprentices and these are critically important for learning, retention and commitment of 'apprentices' in the first few months on the job. These factors deal with learning itself and the context being learned. The learning factors deal with a relationship between confidence, support and challenges within the workplace environment; whereas the contextual factors deal with the allocation and structuring of work, the encounters and relationships with colleagues, and individual participation and expectations of performance and progress (Eraut, 2007; TLRP, 2007).

Nielsen (2008) highlighted another perspective by indicating that there are two types of learning, namely, expansive and restrictive learning. Expansive learning is understood as the process in which learners become motivated to acquire meaning based on their problems and their desire to solve the challenges, whereas in restrictive learning, learners are forced to learn something for specific reasons embedded in their work context. In addition, restrictive learning is a process in which a learner accepts and identifies with a certain workplace culture. In the case of highly gendered workplaces, both genders accept the ways in which the workplace can hinder or advance their potential (Nielsen, 2008).

2.2.1 The learning and context factors affecting females in the workplace

In the Teaching and Learning Research Programme (TLRP) research study, Eraut (2007) found out that support and feedback were critically important for building the confidence of the learner, for learning in the workplace, for retention and commitment of the learners (Eraut, 2007). The TLRP was one of the largest and most important education research programme ever commissioned in the United Kingdom (the programme was closed in 2011). It was a broad programme and had a component that focused on workplace learning in support of vocational education and training.

A research study on 'Why so few females in science, technology, engineering and mathematics' conducted by the American Association of University Women (AAUW) suggests that females experienced what is called a double bind in highly gendered occupation and workplaces (Hill, Corbert & St Rose, 2010). The double bind simply means that a female can either be competent or likable, but never both in the workplace. It is suggested that being both competent and well liked are important for advancement in the workplace (Hill et al., 2010). This affects the ability of females to develop the critically important bonds that will form part of

their support system, in addition affecting the confidence females have in the support and trust of colleagues.

Madeline Heilman and Tyler Okimoto (2004) cited in the Hill et al. (2010) research study state that "*doing what men do, as well as they do it, does not seem to be enough; female must additionally be able to manage the delicate balance of being both competent and communal*" (Hill et al., 2010, p. 82). It can be concluded that confidence is important in workplace learning and relates to the capability of the learner to execute a particular task successfully, including the learner's confidence in the support and trust of colleagues (Eraut, 2007).

2.2.2 The contextual factors affecting females in the vocational workplace

Equally important in workplace learning in building confidence in a learner are the right levels of work challenges, which look into the issues of workload given to the learner and build the confidence of the learners to do better in their areas of expertise (Eraut, 2007). The allocation and structuring of work is central to learners' progression. Work allocation of work also presents the apprentices with opportunities to meet and learn from colleagues by observing and working alongside people with more or different experience (TLRP, 2007).

The experience obtained from others is essential as it presents the learner with opportunities to receive expertise and form relations that might provide feedback and support (Eraut, 2007; TLRP, 2007). On the other hand, the level of challenge in the workload is also important to learn. It can either break or make a learner. The research conducted by Scullen (2008) in Canada revealed inconsistencies in work allocation in the apprenticeship programme. One female was allocated work that was being done by three males and was separated from the team. In another case, a female carpenter was given a job to sweep the floor instead of doing

carpentry work. Others reported that they were excluded from other 'work' on the perceived basis of females' physical capabilities (Scullen, 2008).

It is clear from the literature that the workplace influenced the learning of its apprentices. Billet (2002) argues that the experiences and support provided by workplaces are often the primary or only sources of individuals' initial learning of their vocational practice (Billet, 2002). Therefore, if learning at work is a crucial factor in enhancing and improving the learners' occupational competency (Bai, 2013) and a critical step in artisan development (Cunningham, Dawes & Bennett, 2004; Koen, Klehe & van Vianen, 2012; Pinquart, Juang & Silereisen, 2003), there is a need to ensure that organisations have a conducive working and learning environment for learning.

Section 2.3 explores the nature of male-dominated workplace in order to understand how the male-dominated workplace responds to the so called female 'intruders', and how social practices influence the females' learning opportunities and experiences including the professional barriers that may cause females to change careers.

2.3 The nature of the highly male gendered workplace and gender

The workplace has been recognised as a legitimate environment for learning new skills and knowledge and for the ongoing development of workers' skills (Billet, 2001; Billet, 2002; Fuller & Unwin, 1998; Le Clus, 2011; Manuti, Pastore, Scardigno, Giancaspro & Marciano, 2015). The culture of that workplace or organisation is essential to how people learn in that organisation. Martina and Barnard (2013), argued that in highly gendered workplaces such as male-dominated workplaces, males have more resources and definitional power that may enforce discriminatory practices, policies and ideologies (Martin & Baard, 2013).

Therefore, in many cases, males control the system of cooperation, the rational sharing of tasks and the career ladder. Thus, when females enter the male-dominated industry, particularly 'male designated occupations' they threaten the existing gender arrangements of male exclusiveness and dominance. As such Kvande and Rasmussen, (1994) argue that when females enter the workplace, they encounter four types of males. The four types of males are the cavaliers, the competitor, the comrades, and the comets, who react differently to 'female intruders' (Kvande & Rasmussen, 1994). According to the research conducted by Scullen (2008) on females in highly gendered male occupations, females reported that some employers thought females could not perform their duties such as lifting materials as well as men, affecting the females' learning opportunities (Scullen, 2008).

According to Kvande and Rasmussen (1994), the Cavaliers are made up of older managers with extensive knowledge, who have a traditional opinion of female gender role. They do not see the female as a competitor and many of them are said to have stay-at-home wives. Cavaliers are protective of 'old ways', find it difficult to see females in technical fields and doubt if technical fields are suitable for females because of physical strength, which female do not possess (Kvande & Rasmussen, 1994).

The second type, the competitors, are those males who are at the beginning of their career in the organisation. They have females at the same level with the same education. Females are potential competition for growth in the organisation. The competitors may have wives who either stay at home or work part-time and this gives them a competitive edge over their female colleagues. They are not wholly positive about improving opportunities for females in their organisation and think that both genders have equal opportunities in today's society. They are

sceptical about affirmative action and believe that motherhood, family and lack of motivation inhibit females career (Kvande & Rasmussen, 1994).

The third type, the comrades, are young graduates who are not in competition with their female colleagues. They have either little experience to compete for more responsibility or are not ambitious to start climbing the career ladder. They like having female colleagues around and agree with the female colleagues that they have fewer opportunities in their workplace than males. Females feel that the comrades treat them equally; however, the comrades do feel threatened by affirmative action policies and the focus on females in the context of their opportunities (Kvande & Rasmussen, 1994).

The fourth type, the comets, are established managers who have made a career for themselves and are satisfied with their achievements and attainment in the organisation. They are secured in who they are, both personally and professionally. As such, they are positive about recruitment of females in their environment. In their views females are not treated equally by the organisation and do not have equal opportunities. They are also aware that there is a considerate amount of important organisational information from which females are excluded (Kvande & Rasmussen, 1994).

These four types interact and support the female apprentices differently in their learning. The cavaliers' and competitors' are argued to be the perpetuators of the barriers to female learning and training in these highly gendered organisation. Kvande and Rasmussen (1994) argue that cavaliers refrain from supporting females in the same manner they support males and provide little or no feedback to female apprentices. The competitor creates a difficult working environment for females by constantly questioning the competence of females, withholding the information and undermining their female colleagues (Kvande & Rasmussen, 1994).

In some cases, in the reviewed literature, it was reported by the females that the environments become so hostile that females did not feel comfortable and welcomed (STATSSA, 2013; Taylor, Hamm & Raykov, 2015). Furthermore, females have reported experiencing unfair treatment and deeply entrenched gendering that makes female artisans feel excluded, isolated and unwelcome, which affects the retention and commitment of females in their respective occupation. A female welder describing her experiences indicated that the environment was so hostile that the shop did everything to keep her from gaining the knowledge needed to become a welder, mostly keeping her from welding (Scullen, 2008).

The cavaliers solve their dilemma of having females in their environment by either developing a father - daughter relationship or by turning a blind eye to the female's presence (Kvande & Rasmussen, 1994). On the other hand, it can be argued that the comrades and comets become a support network for the females, but, once the comrades start to compete with the female colleagues for career development, they internalise the organisational culture and start to simulate the behaviour of the 'competitor'.

Research in highly gendered workplaces has revealed inadequate training and mentorship opportunities as being primary professional barriers to integrating female apprentices in these highly gendered occupations. These influence female apprentices' confidence and learning (Martin & Barnard, 2013; Scullen, 2008; Trade Union Congress & Young Women's Christian Association [TUC & YWCA], 2010). In addition, females have reported learning challenges citing unacceptable treatment, lack of challenging and varied tasks, lack of interaction with the supervisors, lack of inclusion and follow-up from the employer, reluctance to help, access to expertise and the quality of workplace trainers (Dagsland et al., 2015; Harris, Willis, Simons, & Collins, 2001).

Therefore, the learning experiences of female apprentices in a highly gendered workplace is influenced by the organisational culture. As such, the literature argues organisational practices in apprentices' occupation at the workplace is the reproduction of the gender segregation in the apprenticeship system. Section 2.4 below explores the gendered nature of the apprenticeship system, which has influenced the training of artisans.

2.4 Apprenticeship system and gender

The apprenticeship system is one of the oldest forms of structured workplace learning (Cunningham et al., 2004). A typical apprenticeship programme requires a young person often straight out of school to be placed with an older, experienced craftperson or a team of experts, and the older, experienced craftperson is expected to transfer knowledge and skills to the apprentice, or the team is expected to support the apprentice in a range of learning programmes (Cunningham et al., 2004). The reviewed literature revealed gender inequality in the apprenticeship occupations irrespective of the equality laws implemented across the globe.

Semali and Shakespeare (2014) argue that the gender inequalities observed are better understood in relation to the concept of patriarchy, which views gender not merely in the light of sexual or biological differences but as contesting boundaries of authority. As a result, workforce-based privileges and rewards for males are often found in highly gendered male workplaces. It is sustained and reinforced by patriarchal socio-cultural systems of inequality and domination (Semali & Shakespeare, 2014). The patriarchal socio-cultural system of inequality and domination is used to discriminate against and exclude females in apprenticeship programmes, especially in the highly gendered workplace by citing the female's

physical strength as a barrier to accessing the training (Evans, 2006; Kvande & Rasmussen, 1994).

In this regard, gender discrimination is condoned through the natural difference between males and female. Hersch, cited in Innes (1993), posits that gender discrimination is socially acceptable, unlike racial discrimination, although there is a legal framework rejecting gender discrimination (Innes, Kentridge & Perold, 1993). Reported cases concerning the experiences of females in the apprenticeship system show that apprentices are treated differently. Females reported that some organisations do not take them seriously, and that they do not receive challenging opportunities and positions proportional to their talents (Martin & Barnard, 2013; Scullen, 2008; TUC & YWCA, 2010).

Research also showed that the allocation of tasks in the apprenticeship system in some cases is divided according to gender. In the case of male apprentices in female-dominated trades, males are given 'heavier' tasks than females, and vice versa. Ironically, when a number of workplaces were asked about the division of labour according to gender, most claimed that they treated the apprentices equally, irrespective of gender (Evans, 2006).

The literature also revealed that the treatment of females in the apprenticeship system is rooted in the history of vocational education. The history of vocational education is captured under Section 2.5. In the case of South Africa, the apprentice system cannot be divorced from the broader social history. Race, class and gender determine the complexity of the transitions to the labour market and the experiences of the apprentices in the apprenticeship system (Wedekind, 2013). The section below highlights the history of the South African apprenticeship system. However, South African history is mostly silent on gender perspective, in the main, it highlights the racial perspective.

2.4.1 The history of the South African apprenticeship system

The history of the South African artisan system is rooted in the British apprenticeship system. Its development was considerably influenced by the boom in the mining industry, as well as the development of the railway system, harbours, small engineering workshops in urban centres and other emerging industries of the 1800s (Gamble, 2003). In South Africa, the earliest forms of the apprenticeship system observed were linked to the system of slavery (Gamble, 2012; Mbatha, Wildschut, Mncwango, Ngazimbi, & Twalo, 2014; Wedekind, 2013; Zwane, Surujlal, & Dhurup, 2014).

According to Wedekind (2013), for South Africa, it is important to note that the "*apprenticeship system is still tied to the history of slavery, colonialism and apartheid that shaped the understanding of apprenticeship as raced and classed in particular ways*" (Wedekind, 2013). The literature reveals that the colonial and apartheid government developed laws that established inequitable access to the labour market for South Africans. These include the Master and Servant Act, which was first promulgated in 1856 and amended in 1904, and the Native Labour Regulation Act of 1911. This legislation underpinned the implementation of policies such as the wage colour bar, which restricted the certification of competency in artisan skills to white and coloured workers only (Mbatha et al., 2014; Wedekind, 2013).

When the National Party government came to power in 1948, with its system of separate development, it ensured that the policies that protected white workers were ingrained in the system, new policies and legislation that protected white workers were established and implemented (Mbatha et al., 2014). The 1970s saw black Africans being included under the Industrial Conciliation Amendment Act of 1979. This was facilitated by the Black African Trade Unions, which also saw the cancelling of job reservation (Mbatha et al., 2014).

In 1981, the first Act to give black workers opportunities to receive skills training and enter into apprenticeship was formulated, namely, the Manpower Training Act 86 of 1981. However, a separate and racial socio-political structure existed (Mbatha et al., 2014), which restricted access to the workplace for training and the labour market. The dawn of democracy ushered in a flurry of activities and reforms, designed to transform the TVET system. The implementation of the democratic policies brought about the achievement of racial transformation within the artisan development chain. However, the policies failed to address gender transformation in the artisan occupations in the labour market.

Although the policies that outlaw all forms of discrimination exist, a challenge in addressing the interface between patriarchal culture and democracy exist. The patriarchal culture has a discriminatory nature, which is covert and difficult to root out. In male-dominated occupations, it can be used to systematically undermine the female apprentices and affect their confidence and performance in the workplace (Martin & Barnard, 2013).

In conclusion, the artisan occupation development in South Africa not only faces a gender challenge. It experiences a racial challenge, as the apprentice system was historically designed to exclude certain races and gender. There are other challenges experienced by females and males in the system (globally), which also affect the South African apprenticeship system, and they are discussed in section 2.4.2 below.

2.4.2 The challenges experienced by the apprenticeship system

The reviewed literature highlighted a number of challenges within the apprenticeship system. The challenges include, but are not limited to, unpleasant working conditions, poor quality of training and feedback, poor access to training and mentoring within the workplace and low wages (Bednarz, 2014; Dagsland et

al., 2015; Snell & Hart, 2008). Globally, the system is also sensitive to market failures, globalisation and international competitiveness, skills–biased technological transformation, the education system, gender, disability and race (Lewis, Thoresen & Cocks, 2011; Mills & Prag, 2014; Meredith, 2011; United Nations Educational, Scientific and Cultural Organisation [UNESCO], 2013). These ultimately affect the ability of apprentices to access workplace opportunities for learning and training.

In the case of female apprentices, the following can be added as notable challenges. The discriminatory practices, prejudice, social norms and persistent stereotype are amongst the challenges facing females. Females have to deal with perceptions of their work capacities and capabilities, sexual harassment, a wage gap or unequal pay and their reproductive roles being used against them in the workplace. In addition, they have to deal with a lack of suitable employment opportunities for training, an inflexible organisational system of working hours, lack of support and encouragement from colleagues and at home (Green, Moore, Easton & Heggie, 2004; Kruss, Wildschut, van Rensburg, Visser, Haupt & Roodt, 2012; Lewis et al., 2011; Soroptimist, 2010).

2.5 Technical Vocational Education and Training (TVET) and Gender

TVET institutions are defined in a number of ways; however, what remains constant in their definitions is the intention of vocational education and training, which is geared towards developing practical skills for the world of work (Demirbilek, 2010; Kennedy, 2012; Mupinga & Livesay, 2004; Okolocha, 2012; Wallin, 2010). The purpose is to provide individuals with skills that are applicable to the workplace (Ivan & Albu, 2014), by focusing on specific trades that allow individuals to engage in a particular occupational activity (Agrawal, 2013).

In the literature, there is general acceptance of the lack of gender transformation in the TVET system. Governments across the globe have reported gender transformation as either being poor, lacking or slow (African Union, 2007; Kruss et al., 2012; Organisation for Economic Co-operation and Development [OECD], 2008; STATSSA, 2013; TUC & YWCA, 2010; UNESCO, 2010; UNESCO, 2013; World Bank, 2013). Policy reforms have been implemented to address gender inequalities. There is evidence of gender targets for enrolments, training programmes for females and the implementation of employment equity legislation (UNESCO, 2013). However, setting targets is easier than changing gender practices, norms and perceptions and societal attitudes of potential employer and educators (UNESCO, 2013).

As a result, it is argued that despite over 30 years of policy initiatives to address these inequalities in TVET occupations, gender segregation persists in the labour market (Niemeyer & Colley,2015). A study of the dual apprentice system in Germany (Haasler & Gottschall, 2015) revealed that the segmentation of the labour market by gender had a close connection with the TVET system. In the Haasler and Gottschall study, it is argued that female-dominated occupations at TVET are not given the same stature as the traditionally male-dominated occupations. They are less standardised, with little or no regulation; including restricted career opportunities and less pay (Haasler & Gottschall, 2015; Høst, Seland & Skålholt, 2015). In addition, the majority of female-dominated TVET occupations are predominantly school based and do not lead directly into a trade test and have a poor linkage with industry.

It can be argued that this system was designed to be discriminatory and the current governments are struggling to transform the system. Historically, the TVET system excluded females from the trade system as it restricted membership to men. These restrictions were derived from an idealised vision of a family economy in which the master was a male family head, who directed the labour of

his wives, children and apprentices (Crowston, 2008; TUC & YWCA, 2010). During the guilds system (the early form of the TVET system, which evolved from the European countries), a master who employed a female artisan or apprentice could be prosecuted by law, for example, Crowston (2008) reveals that a master in the Parisian embroiderers' guild was successfully prosecuted for employing a female (Crowston, 2008).

Furthermore, the historical participation of women in TVET in South Africa began as a strategy to prepare females for domestic work (Gamble, 2003), leaving the technical training for males. Compounded with the history of South Africa concerning access to the labour market, it can be argued that black females have been those most marginalised by the TVET system. The colonial and apartheid system structured the system so as to benefit the white minority through the implementation of various policies and laws, whereas, the patriarchal society structure the system in such a way as to benefit males only (Akoojee, Gewer & McGrath, 2005; Centre for Development and Enterprise, 2012; Gamble, 2003; Gamble, 2012; Mbatha et al., 2014; Wedekind, 2013; Zwane et al., 2014).

The legacy of this design is still observed in today's society. Females continue to enrol in traditionally female occupations, such as office administration, finance, economics and accounting, hospitality, care of the aged, nursing and hairdressing (DHET, 2013 a; DHET, 2013b; EAPME, 2000; HSRC, 2014; Tanggaard, 2006; World Bank, 2013).

2.5.1 The South African TVET system

TVET provision has a 'system' perspective and differs from country to country. It is delivered at different levels from different institutions. Although provision differs, there are two main ways in which TVET is provided: that is, either through the formal education route (vocational education school, colleges, universities) or the

informal apprentice route such as workshops (African Union, 2007; Deissinger, Heine & Ott, 2011; Oketch, 2007).

In the main, the formal TVET system is based on a public - private partnership, also known as the dual apprentice system found in Germany, Norway, Denmark, and South Africa. In the dual apprentice system, the educational and training institutions provide the learners with classroom teaching in order to acquire those competences, which are needed for the execution of an occupation or trade, and industry provides the learners with workplace learning (Haasler & Gottschall, 2015; Høst et al., 2015).

2.6 Conclusion

In conclusion, gender inequality persists in artisan employment in South Africa as men continue to outnumber females significantly in artisan employment. In the South African context race, gender and class determine the complexity of segregation and discrimination in the system. Historically ingrained attitudes of males towards females, discriminatory practices, social norms and persistent stereotypes shape females learning, training and ultimately success in the learnership and apprenticeship programme.

In addition, in highly gendered male workplaces and occupations, the culture of the organisation influences female's identity, learning and retention. These highly gendered workplaces have been found to be hostile to females and issues of gender discrimination in the allocation of work have been observed. Therefore, gender is being used as both as a resource for males and a barrier for females. In South Africa, there is only a limited understanding of how female apprentices learn in these highly gendered workplaces and how female apprentices experience their learning in these environments, particularly in the automotive sector.

Chapter 3: Research Methodology

The purpose of this research was to explore the learning experiences of female artisans in the South Africa automotive industry, during the work-based phase of their apprenticeship programme. This chapter discusses and justifies the research methodology used for the study, by describing the approach, the framework for the collection and analysis of data, the techniques for data collection, procedure, and the sample used in the research. It also reports on the strategies that were used to ensure validity and reliability of data.

The researcher chose to undertake exploratory research into the learning experiences of female artisan, because explorative research is appropriate for understanding a persistent phenomenon (Mouton, 1998) in a system. Since the researcher was not working in the automotive industry, it was appropriate in assisting her to identify the salient factors and in addressing a subject that the researcher had high levels of uncertainty about including some level of ignorance about the learning environment which the females were experiencing.

3.1 Research strategy/ approach

This research study is underpinned by interpretivist epistemology. This was selected because of its ability to grasp the subjective nature of social actions. It also stresses the understanding of social phenomena through the interpretation of the world as seen through the eyes of its participants. A qualitative research strategy was used for this study because of its ability to capture the views of individuals or groups descriptively (Bryman, 2012). It was selected because of its association with exploratory research and it allows the researcher to capture the views of the participants about their experiences.

3.2 Research Design

The framework used to collect the data and analyse it, was based on a basic interpretive qualitative research design (Bryman, 2012). It was selected because of its flexibility and association with research that seeks to understand the worldviews of the people involved (Merriam, 2002). It allowed the researcher to capture the interpretations of the female participants about their learning experiences in a highly male-dominated gendered workplace including the meaning they assigned to those experiences.

Data were collected from interviewing female apprentices, learnership candidates and artisans, and two skills experts found in the automotive sector. Data analysis involved categorising and developing patterns or themes emerging from the interviews. The patterns were developed through the researcher's interpretation of female participants' experiences contrasted with the emerging literature.

3.3 Research Methods

Semi-structured interviews consisting of open-ended questions were used to collect the data. They were selected because of their flexibility and ability to reduce variation in response. They allowed the researcher control over the line of questioning, while giving the researcher flexibility with regards to the flow of questions (Bryman, 2012; Creswell, 2003).

Two sets of interview questions were developed: one for female participants and one for the industry experts. The interview questions for female participants were divided into three sections, which were constructed in such a way as to answer the three research questions. The first section dealt with the learning profile of the participants. The second section dealt with the workplace experiences of the participants and the third section dealt with their working environment. The questions were linked to the three research questions, see Table 4 below.

Table 4: Interview questions for female participants

Research Question	Interview Questions
1. **What are/were the learning experiences of female artisans in the automotive sector during the apprenticeship programme?**	• Tell me about your experiences of getting experiential learning/finding placement/into the apprenticeship programme? • Tell me about your general experiences of the apprenticeship programme?
2. **What were/are their experiences of the working environment, in relation to team interactions, support from colleagues, and feedback on their performance?**	• Tell me how you have experienced the working or training environment? • Tell me what kind of a working relationship did you share with your colleagues? • Can you tell me about your experience of being supervised? • Tell me if you think your workload was adequate for your apprenticeship programme? • Do you think your experience was similar to those of other apprentices?
3. **Do females experience issues of gender discrimination at any phase in the artisan development programme?**	• What do you think are the key learning challenges you faced as a woman apprentice in the artisan programme? • What would you tell your women friends or your friend's daughter if she approached you about doing an apprenticeship?

Data source: Own data analysis using interview questionnaire

The industry experts' questions were mainly designed to assess the challenges faced by females in the automotive sector, the nature of the automotive training environment and to understand why there was little progress taking place in terms of gender transformation.

Table 5: Interview questions for experts

merSETA	Industry expert
• **I see the SETA is very successful in meeting the artisanal development targets, could you kindly indicate how successful the SETA is in recruiting women apprentices?** • **merSETA is praised for producing good quality artisan, how does the organisation ensure high quality training for its apprentice? Could you kindly tell me how you support the student that you have placed?** • **Does the SETA receive feedback from industry on the workplace experience component and the experiences of the artisans they placed?** • **Is the SETA monitoring the workplace/ work-based learning/ experiential learning of apprentice?** • **Since the merSETA industries are male-dominated and it has been reported the women from less than 5% of the artisan occupation, could you kindly share with me the throughput rate of women in your sectors?** • **Government has a transformative agenda for the country, how do you think your sectors are performing, especially the automotive sector - the components sub-sector?** • **In general, could you kindly share the challenges experienced by women in the automotive sector in completing their artisanship and doing the work of artisans?**	• Could you tell me about your experience as a supervisor? • Could you tell me how long have you been a supervisor? • Tell me about your experiences in supervising women apprentices. • Share with me your approach to supervising. • Do you find the performance of women and male apprentices similar? • What do you think are the key learning challenges faced by women apprentices in the artisan programme? • Could you indicate if there have been changes in the training environment for artisan development? • An increase is observed in women enrolling in artisan programmes in the education and training side. However, fewer women succeed in qualifying as artisans. What do you think makes some women succeed in their artisan training programme where others fail? • Getting workplace experience and completing the artisanship has been highlighted as a challenge in artisan programme. Could you indicate what the challenges are? • The automotive industry is a male-dominated industry. Do you think there is differences between female and male experiences in the industry?

Data source: Own data analysis using interview questionnaire

3.4 Research Procedure

The researcher contacted the National Association of Automotive Manufacturers of South Africa (NAAMSA), the Automotive Industry Development Centre (AIDC) and merSETA, via electronic mail and requested assistance in identifying companies with women apprentices/artisans, in order to request interviewee's permission to participate. NAAMSA responded by forwarding electronic mail addresses of Industrial Relations Directors and Managers of seven motor vehicle manufacturing facilities in South Africa.

An electronic mail was sent to all seven Industrial Relations Directors and Managers, who forwarded the communication to the relevant companies, training centre, training managers, the Motor Industry Staff Association (MISA), and technical training academies. The managers forwarded the contact numbers of female participants and assisted in organising and setting up interview dates, times and the venue. The interviews were conducted over a three-week period, and took on average between 30 minutes and 45 minutes. The majority of the interviews was conducted using face to face interviews. Only three interviews of the 16 people interviewed participants were conducted telephonically.

Overall, all the participants were informed at the beginning of the meeting about the purpose of the research. They were also informed that the interviews were voluntary, confidential, and they could leave at any time. Each participant was requested to sign a consent form for participating in the research. Another consent was requested to record the interview session for the purposes of analysis. The participants were informed and ensured that the recording would not be shared with their management. An interview schedule is attached as Appendix 2 and the summary of how each interview was conducted is set out in Table 6.

Table 6: How the interview sessions were conducted

Participants	How the interviews were conducted
P01	The service manager offered the use of an empty office (glass office) for the researcher to conduct the interview. The manager facilitated the introduction and left us alone.
P02	The service manager assisted with coordinating the interview. He indicated that there was another female apprentice in the workshop; however, she was attending training. While the researcher was interviewing another participant, the service manager called the training centre and insisted that they allowed the researcher to interview the participant. The researcher drove to the training centre, and the training centre offered the use of their boardroom.
P03	The service manager assisted with the contact details of the participants. The researcher coordinated the meeting and the participant requested for the meeting to take place during her lunch break.
P12, P13, P14	The service manager assisted with the coordination of the interviews. These interviews were conducted via a telephone as the participants were outside the Gauteng Province. All three interviews were difficult to conduct as the participants were in their workshop office and the noise from the workshop and people talking behind could be heard.
P04, P05, P06, P07, P08, P09, P10, P11	The training manager offered the use of their boardroom. The manager assigned an individual to assist with the interview. The interview coordinator printed an interview sheet for the researcher detailing the sequence of the interview. On the interview schedule, the researcher was given 30 minutes per interview. However, the time was not restricted, only put as a guide. She also assisted with calling the participants to the interview, one by one and she ensured that the participants were coming to the interviews.
P15	A skills expert in the automotive sector assisted with the coordination of the interview. The meeting was set up for ten o'clock, but, on the interview date the coordinator had an emergency. He supplied the contact details of the participants. Upon confirming the interview time, the participant indicated that he had been unaware of the interview. Since, the researcher was already on her way to the meeting, the participant agreed to meet the

Participants	How the interviews were conducted
	researcher. The interview was rescheduled for 16:00 p.m. in the participant's office.
P16	The interview was conducted on Sunday in the church hall, after the church service.

Data source: Own data analysis using interview questionnaire

Despite the limitations of not being able to establish relationships with the participants prior to doing the interviews, the researcher felt that she was able to connect with the participants and could create a comfortable environment for the participants. The participants were able to be open about their experiences, with the exception of female participants whose interviews were done using the telephone.

3.5 Sampling

The sampling frame for the research was the South African Automotive Industry female apprentices, learnership candidates and artisans. The targeted population was females found within the Gauteng Province. However, due to the time constraint and the inability to source females, the targeted population was expanded to include three female apprentices in the North West Province.

A non-probability convenience sample constituting of 14 female apprentices, learnership candidates and artisans was used for the purposes of the research. It was selected for its appropriateness for exploratory research and because of the researcher's limited knowledge of the population size from which the sample was selected (Neuman, 2006).

Two industry experts were also interviewed for the purposes of validating the data, to acquire a deeper understanding of the key issues and to gain a different perspective of the female learning experiences in the Automotive Sector.

3.6 Data analysis

The interview transcript was analysed using thematic content analysis (Bryman, 2012: p. 579), which allowed for recording patterns that could be used to understand female apprentices learning experiences in a male-dominated workplace. A matrix-based thematic analysis framework was used for ordering and synthesising the data. The data were organised initially into core theme, then sub themes, and the recurring data patterns from the interview transcript were allocated to the relevant theme or sub – theme, see Table 5.

Table 7: The framework approach for thematic analysis adapted from Bryman

Research Questions	Interview Questions	Theme	Sub - Theme	Emerging Patterns
What are/were the learning experiences of female artisans in the automotive sector during the apprenticeship programme?	• Tell me about your experiences of getting experiential learning/finding placement/into the apprenticeship programme? • Tell me about your general experiences in the apprenticeship programme?	• General experiences of female participants in the artisan programme	• Education and training background • Workplace experiences • Socio-economic background • Acquiring placement for training	• Qualifications • Socio-economic challenges such as finance • Pressures of the training environment • Assistance
What were/are females' experiences of	• Tell me how you experienced the working or	• Learning experiences	• Experiences in support	• Support from colleagues

Research Questions	Interview Questions	Theme	Sub - Theme	Emerging Patterns
the working environment, in relation to team interactions, support from colleagues, and feedback on their performance?	training environment? • Tell me what kind of a working relationship you shared with your colleagues? • Can you tell me about your experience of being supervised? • Tell me if you think your workload was adequate for your apprenticeship programme? • Do you think your experiences were similar to those or other apprentices?	of female participants	from colleagues • Feedback on performance • Experience in the encounters with colleagues • Meaningful and challenging work • Learning in male-dominated workplace	• Supervision and feedback • Confidence, interaction and team dynamics • Allocation of work • Culture of the workplace
Did females experience issues of gender discrimination at any phase in the artisan	• What do you think are the key learning challenges you faced as a woman apprentice in the	• Challenges faced by female in the automotive sector?	• Key Challenges	• Unfair treatment • Sexual harassment • Not being taken seriously

Research Questions	Interview Questions	Theme	Sub - Theme	Emerging Patterns
development programme?	artisan programme? • What would you tell your women friend's or your friend's daughter if she approached you about doing an apprenticeship?			• Unequal opportunities and treatment • Racial discriminations • Perceptions

Data source: Own data analysis using interview transcript

3.7 Validity and reliability

Validity and reliability are the criteria used to measure social research, where validity in qualitative research is concerned with the integrity of the research output and reliability is concerned with the degree to which the measure of a concept is stable (Bryman, 2012). In addition, multiple sources of data were used to confirm the emerging findings. This helped to give a holistic interpretation of the experience of female artisans in the apprenticeship and learnership programmes.

The researcher interviewed two experts, one from merSETA and company C, for the purposes of validation. The two experts, who are working in the automotive industry, hold senior positions and are to some degree responsible for the recruitment and training of females in the automotive sector. In order to demonstrate the reliability or the trustworthiness of the research, academic literature such as the journal articles and documents from international organisations that monitor gender transformation in male-dominated industries was used to corroborate the findings.

3.8 Ethical Considerations

Communication on the purpose and aims of the research was sent to the relevant institutions and consent for the interviews from the managers was requested and given. The participants were requested to sign consent forms. In the case of the interviews that were conducted over the telephone, consent was requested telephonically. Although consent was requested from the experts, the experts did not sign a consent form (see Appendix 1). During the interview, the participants were informed that the interview records would be kept confidential and only be utilised for the purpose of the research study.

3.9 Research Limitations

The purpose of this research is to explore the learning experiences of female artisans in the South Africa automotive industry; however, there were some unavoidable limitations, shortcomings and experiences. Firstly, because of the time and financial constraints, this research was conducted on a small sample size. Secondly, the majority of the participants were female apprentices and learnership candidates, instead of female artisans. Female artisans were difficult to find and access in the automotive labour market.

Therefore, the research sample was not representative of the population size. Female participants interviewed were all black and the majority were from the Gauteng province. This implies that the results of this research cannot be generalised to the population. In order for research to be generalised to the population, the researcher should have involved more participants in the three major provinces that represent the South African automotive sector, different racial groups and a larger sample size.

3.10 Conclusion

In conclusion, this research study explored the learning experiences of 14 female apprentices, learnership candidates and artisans. Two industry experts on artisan development were used to validate the findings. The qualitative research strategy was used, using semi-structured interviews as research methods. The strategy, design and methods were selected because of their association with exploratory research and their ability to ascertain the views of individuals or groups, and in this case the experiences of female artisans in the automotive industry.

Data were analysed using the thematic analysis framework, that allowed the researcher to organised the data into themes and sub-theme and observe and record patterns from the interview transcript.

Chapter 4: Findings

The purpose of this research is to explore the learning experiences of female artisans in the South Africa automotive industry, during the work-based phase of their apprenticeship programme. This chapter presents and describes the results obtained from in-depth interviews on the learning experiences of female artisans and apprentices in the automotive industry. It describes the profile of the respondents and provides insights into the social, educational and economic background of the participants.

The participants were asked a set of questions that had been designed to understand their learning experiences in a male-dominated industry. The participants' response was organised into themes, sub-themes and the recurring data patterns using a matrix based thematic analysis framework (see Table 7 under the methodology section). Where appropriate, quotations are used which are indicative of the overall theme, sub - theme and patterns discussed. The quotes act as illustrations of more than one participants' views.

4.1 The profile of the respondents

Table 8 below shows the profile of the 14 female participants. All the female participants were black, and were either doing an apprenticeship (6) or learnership (8) programme. Females who were doing apprentices were found in the repair and maintenance service of the Automotive Industry, whereas the females who were doing learnerships were found in the motor vehicle assembly plants.

Table 8: Female respondents interviewed

Interview	Artisanal route	Training Environment	Trade of interest	Occupation	NQF Level
P01	Apprenticeship	Service workshop	Motor mechanic	Apprentice	Level 3
P02	Apprenticeship	Service workshop	Motor Mechanic	Apprentice	Level 4
P03	Apprenticeship	Service workshop	Motor Mechanic	Apprentice	Level 4
P04	Learnership	Car Production Plant	Mechatronics	Qualified Artisan	Level 4
P05	Learnership	Car Production Plant	Mechatronics	Qualified Artisan	Level 4
P06	Learnership	Car Production Plant	Autotronics	Learner	Level 4
P07	Learnership	Car Production Plant	Mechatronics	Learner	Level 3
P08	Learnership	Car Production Plant	Autotronics	Qualified Artisan	Level 4
P09	Learnership	Car Production Plant	Mechatronics	Learner	Level 2
P10	Learnership	Car Production Plant	Mechatronics	Learner	Level 2
P11	Learnership	Car Production Plant	Mechatronics	Learner	Level 2
P12	Apprenticeship	Service workshop	Motor Mechanic	Apprentice	Level 4
P13	Apprenticeship	Service workshop	Motor Mechanic	Apprentice	Level 1
P	Apprenticeship	Service workshop	Motor Mechanic	Apprentice	Level 3

Data Source: Summary of researcher's data

Female participants interviewed were pursuing three trades, namely, motor mechanic, mechatronics and autotronics. Of the 14 interviewed females, only four females were qualified as artisans. The majority were either doing an apprenticeship programme or a learnership programme. From this majority, four were preparing to write their trade test. The trade tests were scheduled to take place between December 2015 and March 2016. Of the four qualified artisans, two were qualified in Mechatronics, one was qualified in Autotronics and one was qualified in electrical-related trades. Female artisans qualified in electrical-related trades, was pursuing another trade in motor mechanics doing level 4, thus preparing to write another trade test.

4.1.1. Education and training profile

The majority of the participants had a college certificate, that is nine of fourteen female participants had an N1 - N6 certificates in electrical-related engineering courses (see Table 8). Only one participant with an N1 - N6 certificate in electrical engineering had managed to qualify as an artisan in the electrical-related trade. However, she was not practising her trade. Instead, she was doing a level 4 motor mechanic trade.

On the other hand, two of the female participants did not have a college certificate. They indicated that the minimum requirement for entry into the apprenticeship and learnership programme was a matric mathematics and science certificate, which they both had.

Table 9: Qualification background of the female participants

Educational Qualification	Comments
College certificate	*"I went to Germiston College and I did electrical from the N1 - N6"(P03).* *"I studied electrical engineering at Tshwane North College, so after finishing my N6, I learnt about the learnership at Company C" (P04).* *" I did a computer course after matric, then I studied at Boston College system development programming..."(P05).* *"At college I studied electrical engineering up to N5.... and IT, which are the course that got me here at company C. I have a national diploma in civil engineering (N1 - N6) ....., IT technical support certificate for level 4, I have Bills of Quantity certificate.... and I have a certificate in National Health and Safety" (P06).* *"I went to the University of Johannesburg to study Somatology and that didn't go well. I then.... studied electrical engineering N 2- N5 course" (P11)*

Educational Qualification	Comments
Matric Certificate	*"I have come straight from high school. In high school, I was in a technical high school, so I studied drawing, physics, maths and mechanical"(P01).*

Data Source: Summary of Author's data

The majority of the female participants were not doing their practical training in the subject area in which they had studied. The female participants who were training in mechatronics and had an N1 - N6 electrical-related certificate felt that they were using the knowledge obtained from their electrical-related certificates. They indicated that the mechatronics trade was a combination of electrical engineering and the millwright trade. However, this suggested a lack of career guidance or a challenge in accessing training programmes related to their field of interest.

4.1.2 Socio-economic profile

Artisan careers for some participants was influenced by their socio-economic background. Some participants indicated that they had not entered into the apprenticeship or the learnership programme because they were interested in it. They joined the artisan programme because of socio-economic challenges such as an inability to pay for higher education and training, academic challenges in higher education and training institutions and financial challenges. Some participants indicated that they had been attracted by the stipend received in learnership and apprenticeship programmes. The stipend gave them to ability to provide for their family.

> "*The time I applied to go to varsity, I had problems with NSFAS fees..... I decided to give myself a chance and volunteer. I didn't even know there was an apprenticeship that existed whatsoever*" (P01).

" *I went to Vaal Tech, studied for three months and I saw not surviving and struggling so thereafter, I applied for this apprenticeship in motor mechanic" (*P03).

"*I ended up in this trade not because I loved it, but because I have a child and I needed to be responsible..... I took what was available" (*P03).

"*I did not have money to further my studies, and worked at Dischem Pharmacy..... I did not choose mechatronics, it chose me. I did not know of its existence..... I left Dischem the pharmacy because I realised that I would get R200 increase annually, the experience of talking to customers, and the money was not enough for me to study further. I thought the learnership was my passport to a better life*" (P05).

"*After matric I stayed at home for three years..... I choose Company C, because of money and I am the breadwinner at home*" (P08).

4.2 Female participants' workplace environment

The interviewed participants were found in two sub-sectors of the automotive industry, namely, the vehicle manufacturing sub - sector and the car service and maintenance environment. The female participants who were found in the vehicle manufacturing sector spent most of their time in the training academy and some time in the assembly plant. However, this changes when the apprenticeship or learnership candidate is at Level 3 and 4, as they now spend most of their time in the plant preparing for their trade test. The participants who were found in car service and maintenance spent most of their time in the workshop (where the cars are fixed).

The majority of female participants were found in the motor vehicle assembly plants. The vehicle assembly plant had three distinct shops, namely, the Body shop, the Paint Shop and the Assembly Plant. Female participants working in this environment were undertaking a learnership programme in Mechatronics or Autotronics. Females training in Mechatronics were maintaining the robotic arms of the machines used to assemble the car parts such as doors, bonnets and boot lids. Females training in Autotronics were conducting diagnostics of whether the car electronics were working.

The rest of the female participants were found in the car service and maintenance workshop. Female participants working in this environment were undertaking an apprenticeship programme in Motor Mechanics. They were conducting scheduled car service and maintenance, wheel alignments, brake repairs, changing oil and engine repairs, amongst others.

4.3 General experience of female participants

The automotive industry is a male-dominated industry. The participants were asked a series of questions to understand their general experiences of the automotive industry and their experiences of accessing the placement for training. The majority of the participants started their learnership and apprenticeship programmes with very low confidence and found the environment overwhelming, challenging and daunting in the beginning.

> *"It was daunting at first, as you are introduced to the workshop I was surprised, I never pictured anything that looks like a lift for cars, how they service them, in my mind, it was like they just fix cars. I didn't know how they drain oil, I did not have a picture, it was just a surprise to me, until I got used to it"*(P01).

"When I started, I was not confident; I didn't think I would make it. I didn't think I would make it to three months, and that they would fire me, but my Journeyman motivated me that I can do this"(P03).

"*It's nerve racking, because now you are a female and you are going into this male-dominated industry....* "(P04).

Overall females experienced some level of challenge in their respective artisan programmes. In order to highlight the general experiences of females in their respective field of interest, occupation and environment, three sub-themes are discussed. The sub - themes are experiences of females in accessing or acquiring workplace for their training, the workplace experiences of females and the key challenges experienced by female participants.

4.3. 1 Acquiring placement for training

Most female participants struggled to acquire a placement for their work-based training programme. This was significant in the female participants with the N1 - N6 electrical-related certificates.

"*I did not get the opportunities for workplace training after finishing the N6 electrical course..... I heard from a friend that there was an agent who had apprentice programmes, I called the agent and I told the agent that I have an electrical certificate..... They indicated that at the present they did not have anything for electrical. However, they had an apprenticeship for the motor industry*" She took it and that is how, she ended up in the automotive industry *(*P03).

"After matric I stayed at home for three years, and tried to apply for school and employment and I was not getting anything" (P08).

"After my N6, I struggled to get employment (for five or six years after school), I worked at the retail store in Danviel Super Spar in Pretoria. I kept applying until Company X gave me the learnership" (P09).

The majority of the participants were unaware of the learnership programme and apprenticeship programmes available to them. As such, the participants dropped their CV with the Department of Labour, who assisted two learners in finding placement. Other participants were assisted by employment agencies, Facebook and friends who informed them about available learnership and apprenticeship programme. One participant indicated that she went knocking door to door and another participant received assistance from her college.

Assisted by the Department of Labour: *"I took my CV to the labour Department and went to Dischem every day, Company X took my CV from the Labour Department, then Labour Department called and inform me about the learnership in Company X, and indicated that if I was interested I should come here"*(P05).

"I got assisted by the Labour Department to get the placement at Company C " (P08).

Assisted by Facebook and friends: *"I learnt about the learnership in company X, which are opened annually. My friend told me about it and then I applied"* (P04).

"I found out about the learnership from Facebook, the learnership was on the assembly line at company X in 2012 and it was a one-year learnership" (P07).

Assisted by College: "*There was a system where you had to pay to get placement (*placement programme at the college*), it was around R6000 - for a trimester, it just became too expensive for me. I was only able to pay a half, and when the trimester ended, it was difficult to get experience, so I had to stay at home*" (P10).

No assistance: "*I didn't even know there was an apprenticeship that existed whatsoever. I decided to approach myself each and every dealership and I will look for a manger"* (P01).

The participant who was assisted by her colleagues, left her learnership programme after six months to a year, because of financial challenges. She also indicated that she left the learnership because it was expensive and she could not afford it.

"The experience of the company I was working in.....was not towards qualifying for a trade" (P10).

On the other hand, there are participants that indicated that they did not struggle to acquire work-based learning. Most of these participants were already in work, studying or pursuing other careers before they took the current learnership or apprenticeship.

"*I was doing N5, and..... I got a job with a company that was working for Company C, doing maintenance. While working for this company I applied*

for the learnership here at Company C, because I wanted to become an artisan (P11).

"I worked in a small company, owned by a guy I knew fixing and wiring at a residential environment. I worked for this company for a year, after that I resigned and came to work for Company X" (P 10).

4.3.2 Workplace experiences

Female participants indicated significant levels of pressure in their workplace environment. The pressure on their learning was compounded by the need to meet company targets. The participants indicated that the pressure in the workplace does affect their learning. Team mates are busy chasing their own targets and do not have time to guide and assist with work-related 'mechanical' problems. Therefore, the participants have to wait until someone finishes what they are doing before they receive assistance. This impacts on their targets.

".....What counts here most of the time is the hours, you need to know how to be on target, you need to make sure that whenever you fix a car it doesn't come back, so don't make any come backs..... Most of the time, they would want you to rush. You can't rush on replacing a turbine, obviously it's going to take you a week and it depends on the car" (P01).

".....You are under pressure, and then you have to understand this, the customer needs his car, the service advisor wants to give the car to the customer, and you are waiting for the foremen to come and explain to you. The foremen are nowhere to be found, do you get it, and when you are trying to explain, you always have excuses..." (P02).

"It was just the pressure in the environment during a breakdown, taking too long, which end up affecting the performance of the team to fix breakdowns. Longer stoppages are a bad reflection"(P09).

" I found the environment hard. At the training centre we do things at leisure, and at the plant they are strict with time. Also, they are chasing targets...." (P11).

In addition, the participants also reported that the senior employee, such as the technicians, abuse the system by assigning difficult, time consuming job to apprentices while taking jobs that are easy in order to chase and make their targets.

"When the job is difficult, he passes it to us and this impact our targets and hours that we must finish" (P01).

Furthermore, in the case of the participants who work in the car assembly plant, the participants reported that everything works in a sequence, and if there is a breakdown in one section, it can affect the entire production. Therefore, delays and breakdowns in the production line are a major issue and represent a serious consequence for the company. Learners are sometime set aside as to allow the qualified artisan to fix the breakdowns.

"During the major breakdown, it's a challenge for us 'appi' [a slang used for apprentices], *especially if the artisan is struggling to fix the problem. The station gets crowded and they don't have time to tell you step by step what is happening. If you are lucky after the breakdown, he may highlight what he did"*(P09).

Most of the learners expressed concern about the breakdowns as some learners were unable to participate in the work activities that lead to the fixing of the problem. Females expressed frustration with being asked to step aside during breakdowns. One participant indicated that the learners are sometimes kept busy by requesting them to go and fetch the needed parts during a breakdown.

> *".... The artisan I worked with was too fast in resolving the break down I could not see"* (P11).

Conflicting experiences were observed in terms of this. One female felt that only females were requested to do this, whereas, their male counterparts are given jobs or activities to do, such untightening a bolt. However, others indicated that all apprentices and learners were asked to do this, irrespective of gender if the breakdown was in their area.

> *"When there was a breakdown, I hated having to move away so that they can fix it. I felt like a kangaroo, give me something to do, a spanner. This was not experienced by all……. It was more like females, with the guys they were given a spanner and are told what to do "* (P04).

> *"In terms of a breakdown..... in your section, there is no way they cannot involve you because it's in your section. As a student, when you were not sure what is going on, they will send you to fetch something at the storeroom to get the needed parts. You must run, if you are slow you will be shouted at. Then, if you have experience as a student, you must start fixing the breakdown, write notes on them and go record them"* (P05).

In order to deal with the inability to learn during breakdowns and during the week when the machines are running, some of the participants sacrificed their weekend and came into the plant when it was quiet to see the work done, the machines

and the parts that make it work, as it is difficult during the week when the machines are running.

"I work under maintenance. The machines run themselves during the week, and on weekends you need to be here when the plant is quiet, and then you are able to see most of the things that were shown to you when the machines were running"(P04)

On the other hand, in the service and maintenance environment the participants indicated that the number of hours spent fixing a car are important, as this number is used as a tool to manage, monitor and evaluate apprentices. It is also used in relation to remuneration of the apprentices, including bonuses.

".....You are given a job card, and on the job card is a 30 000 Km service for this service you are given 1.5 hours to do it. In our work you have to be more than your hours given a day not less, and that is how we are managed " (P03).

"When you are in training you don't make the hours needed for payment, and there is a conflict with management in terms of not making your hours" (P02).

Furthermore, other participants reported that they had encountered issues of racial discrimination within their teams. However, irrespective of the challenges faced, the participants felt that their teams were supportive, hence their ability to achieve the level they were in or qualify as artisans.

".... I think it's racial discrimination; they go on their own.....when there is a breakdown they don't call you" (P10).

4.3.3 Challenges experienced by female apprentices

Female participants were requested to identify the challenges they face in their environment, including those that are related to their training and learning. Table 10 presents the challenges highlighted by the participants in the automotive sector.

Table 10: Challenges noted by the participants in the automotive industry

Challenges	*Comments*
unfair treatment	*" You will find out that you were sent to clean a storage as a woman, but the guys [male counterparts] are working on the production line checking the breakdown. This is not fair, when there is a need to clean a storage, they always pick the girls instead of the guys"(P10).* *"They would give difficult jobs, where you had to do the wiring, but you don't know where to start. They made sure no one came to help you, they would shout at the person who offered assistance. I guess today I am not scared of working on my own because of that."(P02)*
sexual harassment	*" When you work with man it can be a challenge, some want to date you, others are touchy- touchy "(P01).* *"We cannot change the biology of a man. Men will always be attracted to women, or else they will be gay. We don't condone this, but it is happening, and therefore we are saying that men also need to be trained when women are coming into their environment on proper behaviour, and for women not to take things personally"(P15).*
not being taken seriously	*"Some underestimate you, ridicule you by laughing, you must beg and nag for assistance sometime (P01).* *"Men don't take us seriously" (P10).*
unequal pay	*"I don't think women and men have the same experience. We are not treated equally, especially in issues around wages" (P01).* *"They use a system for increases that records the time it takes for you to work and release a car, but women don't work as fast as the guys. I think that system is unfair. There is a station called side track, and on the station they put guys only, and put women on the line. More money is made on the side track not on the line. I am the only woman who had worked there" (P06).*

Challenges	Comments
shifts	*"The shift patterns are straining for women; they are more benefiting to men. Working the whole week, including weekends from 6 to 6.... We have children that we need to be taken care of at home" (P11).*
physical strength	*"The challenges would be that we are not stronger than men"(P11).* *"The key challenge is lifting things"(P13)* *"Lifting heavy machine, like tightening the bolts as we don't have too much power"(P14)* *"..... I have never seen anyone change the loom alone, yet I was given the responsibility. I did, I was afraid it will break, but the loom worked, it did not break and is it still working even today. I paid for that, my body was sore I could not lift my arms the whole week" (P05).*
size of protective gear and materials,	*".... The size of the clothes that we get. They have big sizes that do not fit women properly"(P09).*
pregnancy	*"Women get pregnant, and get married and don't come back, that is why you don't see enough women in the industry"(P02).* *"The biggest challenge women faced in the industry is around pregnancy, not because women are pregnant, it has to do with the training, where the training has to stop for four months, and this counts against the woman. Not from the industry side, but just the fact that the training has stop. For example, it's like I was building a house, and the house has to stand for four months, then I would come back again and build a house. This prolongs the training period, I think if women can try not to get pregnant during the training phase, then it would be advantageous for them"(P15).*
family responsibility	*"Working the whole week, including weekends from 6 to 6.... We have children that we need to take care of at home" (P11).* *"I have kids and a family to look after, every day when I leave the workshop I am not fresh to get home, feed and bath the kids. Also the pay is not good" (P03).*
racial discrimination	*"Racial discrimination still exists in some workshops, where white colleagues do not want to interact with blacks. In one workshop in Kempton Park, the manager will indicate that only white people were allowed to sit and have lunch in the company Canteen. Hazing was*

Challenges	*Comments*
	also done to the apprentice in the Kempton Park workshop, and if you didn't want to, they told you to leave"(P02).
stereotypic perceptions	*" People think that you will not be able to do the job because are a female"(P04).* *".....But women don't work fast as the guys"(P06).*
profanity	*".... The language, where guys swear all the time. This puts off women in the environment" (P16).* *"..... Swearing a lot at the workshop, and women must be able to handle that environment" (P01)*

Data Source: Summary of Author's data

Female participants reported that the artisan programme did not treat them the same as their male counterparts. The differences in treatment were more visible in the workshops than in the training academy. Female participants indicated issues of unfair treatment, sexual harassment, not being taken seriously, unequal pay, discrimination, and stereotype used against them to justify different treatment. These stereotypes include, but were not limited to, their physical strength, family responsibility and pregnancy, which is used as barriers to employment in the industry. One participant explicitly highlighted this barrier, including that females are recruited for equity points. This argument was supported by the automotive skills experts. The industry experts did confirm that the equity points are the motivation for recruiting female apprentices and learnership candidates for training.

> *"They are few because bawavalela ngaphandle* [*locking them outside*]. *Also, once the contract ends, you don't get work. They take women apprentices because they gain from taking women apprentices.....They get money for training you, and the women apprentice is left with securing a job in a tough environment" (*P02).

"The first challenge is that you are a woman, and as such you are pushed aside. I just came from an interview, which they told my supervisor that I didn't apply for, although I did. And they say you are inexperienced, and they don't take us seriously, the maternity leave works against us, and other challenges" and "I don't think men and women experience the industry similarly, especially when it comes to hiring, the priority is men" (P08).

" I had a female friend an artisan, who applied for a position, and she is the only female in there. The company didn't give her the opportunity" (P11).

".....we do tell the companies that if they take on a female, it does reflect well on their BEE scorecard. The companies are well aware of that..." (P15).

"What is important, women have a higher equity point, for a black woman it is three times the equity points: it's an incentive for the companies"(P16)

The industry expert also presented another dynamic that led to the low representation of females in the automotive sector. Firstly, the experts indicated that females are not grabbing the opportunities available in the industry. Secondly, for reasons that were described as 'feminine'. The feminine reasons included amongst others, not wanting grease in their hands, long nails which are not acceptable in the industry, and wearing overalls instead of dresses. Lastly, the experts indicated that there were input challenges from the education and training sector.

"The reason that women's artisans output is not observed in the labour market, is due to input challenges..... because women have not caught on.... and for reasons of femininity, how many women want to have grease in their hands. Also in the industry long nails are not acceptable"(P15).

Irrespective of the challenges, the majority of females, have indicated that they would stay in the industry, but, they plan to move and grow to other occupations such as becoming analysts, programming, engineering, the car insurance industry and management positions.

> *"I will die in this industry. My plans for the next five years are: I will be an artisan next year, after two years a technician and, thereafter the first female re-work planner at the company. After five years of being a rework planner, I want to be a production manager"* (P06).

However, there is a substantial number that indicated that they would leave the automotive sector for university, mining industry and returning back to the electrical-related trades.

> *".... I want to do my Bachelor's degree in engineering and this trade is a stepping stone in that direction"(*P01).

There were also those females that felt that they would not advise their female friends and daughters to join the industry. This is based on the negative experiences they received.

> *"I will not advise anyone to come and work in the workshop, unless they want a start. I would tell the kids if I were to advise them to go to varsity and do something better"(*P03).

Yet another felt that they would advise their female friends and daughters to join the industry because it was interesting.

4.4 Learning experiences of female participants

When exploring the learning experiences of female participants, the following sub-theme emerged, namely, support from colleagues, feedback on performance, encounters with colleagues and relationships formulated, receiving meaningful and challenging work, learning in highly gendered workplaces.

4.4.1 Female experience of support from colleagues

In the main, the participants felt that their teams, supervisors and colleagues were supportive, patient and understanding. As a result, the majority of the participants reported a good relationship with their colleagues, managers, supervisors, senior artisans and Journeyman. Some participants even attributed their success to the motivation and support from colleagues, including hard work and focus.

> "*My journeyman was a patient individual. He was like a father to me, therefore I was blessed. He taught me nice and slowly each and every day, and told me to take my time, relax and be patient*" and "*My team understood me, I also understood them, and whenever I was around them they did not push me aside. They would also include and teach me this and that. And so I have learned a lot of things from them*" (P01).

> *"I feel at home, my colleagues treat me as if I am their sisters" and "Working relationship with the colleagues was fine, and I receive support from all.....The experiences I had with my Journeyman were fine, they referred to him as my father in the workshop"* (P03).

> "*I found my teammates supportive, they allowed me to grow, they did not spoon-feed me. I made a couple of mistakes along the way, my colleagues were there to emotionally support me.*" and "*I remember one day I dropped*

a car that was on a conveyor, my mentor/supervisor protected me when the team leaders came"(P04).

"... I had a good working relationship with everyone in each and every department.... when there are posts for artisan in other departments .... everyone is telling me to apply.... even though I am not an artisan yet"(P06).

"I had a good relationship with my supervisor, and enjoyed our working relationship"(P08).

"I enjoyed the interaction between me and my supervisor; he didn't treat me differently because I am a woman and he is a man"(P09).

"*The team relationship with my team is good, and they were friendly from the moment I started in the workshop. We communicate our challenges..... The teammates had sufficient time to assist..... At present I am doing level 4 in motor mechanics. I don't need to much support from my team, but at the time when I was at level 2, they were supportive..... My relationship with the foremen is good, and he is helpful, even though he has a lot at his plate*" (P12).

However, there were participants who reported a strained and challenging relationship. The majority of female participants indicated that they faced a number of challenges with their colleagues. These challenges affected their learning, trust, confidence and identity as they had to be strong and persevere.

"There were challenges of team dynamics taking place, our team was composed of both technicians and apprentices. So as a girl, some teammates (male) underestimate you, they can be rude, although I got used to him"(P01).

"I did not get support from my managers and colleagues. I used to have a good relationship with the service manager, however, this relationship is not in good standing now. Colleagues do support me there and there, however, it's only when they want something from me" (P02)

"He hated when I indicated that I forgot, he will scream, I will be upset and go to the toilet"(P05).

"I didn't find the team I was assigned to for my learnership supportive, I work with them because I know what I want"....."They don't want to share, I felt like I don't belong there and I didn't make a good decision to move from the production line" (P10).

4.4.2 Supervision and feedback on performance

The participants reported that there are significantly low levels of supervision and feedback taking place. One participant indicated that the Team Leader holds one on one sessions and asks random questions to test their knowledge. The participants are assigned to a supervisor when they start the apprenticeship or learnership programme. The supervisor is referred to as a Journeyman in the service and maintenance and a senior artisan in the car assembly plant environment.

"I was assigned to a Journeyman who taught me the basics on how to fix a car for about eight months, then after eight months, that's when you start working alone, they give you small things like oil changing, drain oil, how to do brakes"(P01).

The low levels of supervision are seen as a symbol of confidence in their performance and a source of pride the participants. The participant reported that lower supervision shows that their colleagues and supervisors trusted them to do their work.

"I have my own IQS card, I check and do my work without supervision"(P06).

"My supervisor trusted me, he could leave the station alone with me, and that gave me confidence"(P11).

However, there were participants who were concerned by the low levels of supervision and feedback. Participants also reported that meeting targets or not is used as an instrument for feedback.

"He did not care about how I am doing, what am I doing. His mind was on money, making the targeted hours. He did not have time to explain things to me. If you ask how can I do this, he will sit me down and do it for me; and when I indicate I did not see anything, he will answer you will see it one day"(P02).

"They don't always come to you for feedback. Managers just pass and you are not sure if you are doing it right, but then again, if you always reach the target you are fine"(P05).

4.4.3 Work allocation

Female participants gave conflicting statements with regard to their experiences of work allocation. There were those participants who reported that there was no difference in the work allocation and those who reported differences in work allocation.

"We experience it similarly, and if they do gear box I have to myself"(P01).

"In terms of the workload, yes, I did receive adequate workload, but I had to learn the hard way"(P02).

"I think that men and women experience the industry the same. Workplace politics do take place, where someone is favoured than others. So it depends, on what kind of manager you receive"(P03).

"When it comes to training and you are given the skills at the training centre, the quality of training is the same [same unit standard]. However, in the plant, there are differences there, they may not give you the work because as a female you will take longer, or you don't know how to tighten the bolt"(P04).

"When it comes to learning, female and males face similar challenges, there is no difference in training and it's the environment that is a bit of challenge"(P16).

The participants who reported differences in workload and experience by the different genders in the workshop and plant, highlighted an abuse of the system by some colleagues, workplace politics, lack of support, gender discrimination in organisational exposure, discrimination between apprentices and learnership candidates, and in wages. It was not clear in some workplaces, whether the apprentices received a standard wage and the difference was made by the performance. In some workplaces, especially in the workplaces that undertook learnerships, the stipend is standard and the difference is made from extra shifts.

"I don't think women and men have the same experience. We are not treated equally, especially in issues around wages [*we don't earn the same because we doing differently*], *also every organisation has its politics and favouritism"(PO1).*

The abuse of the payment system by the technician in the workplace was amongst the key frustrations that the apprentices mentioned. The technicians would give the apprentices a difficult job and take the easier jobs in order to chase their target. The participants also reported that while the technician chased their target, little time was given to supervision. Therefore, if the apprentice needed help they would have to wait until the technicians finished their work before assisting. This affected their targets and the system was sometimes used to victimise the apprentices.

"We do get sufficient workload, however, sometimes the technicians will abuse this and give us difficult jobs"(P01).

"They would give me difficult jobs, where you had to do the wiring, but you don't know where to start. They made sure no one came to help me, and they would shout at the person who offer assistance. I guess today I am not scared of working on my own because of that"(P02).

"I have never seen anyone change the loom alone, yet I was given the responsibility. I did, I was afraid it would break, but the loom worked, it did not break and it still works even today. I paid for that, my body was sore and I could not lift my arms the whole week" (P05).

The participants reported discriminatory practices in their organisational culture. The discrimination included exclusion from opportunities and extra income opportunities. One participant highlighted that female apprentices and

learnership candidates are sent to clean a storeroom, but their male colleagues have never been sent to clean the storeroom.

"Opportunities (in the organisation) are given, because we are taken to the plant. But when it comes to shutdowns, they request a few students. They will take our male colleagues rather than us. We knew this...."(P04).

"There is a difference between exposure to the plant between apprentice and learnership [*candidates*]. *I think the apprentices get more exposure than us* [*learnership candidate*]. *We were given four weeks, and the apprentices have been in the plant since June* [*Interviews were in November*] *and are still there. Therefore, it's quite a disadvantage and unfair to us, because after we have done our trade test, they prefer to employ someone with more experience"(P09).*

".... On work load related challenges, you will find out you were sent to clean a storage room as a woman, whereas the guys are moving on the production line checking the breakdown. This is not fair, when there is a need to clean a storage room, they always pick the girls instead of the guys"(P09).

" We are continuously judged on our strength"(P10).

4.4.5 Learning in a highly male gendered workplace

Some participants reported that the environment was hostile and unsupportive. One female participant was able to directly link her failure to achieve her previous apprentice training to her working environment.

"At the company ...., where I was doing my apprentice, since I am a woman, they never believe I can do anything on cars. They never believed that I could ever pass, hence I failed" (P02).

There are females who reported that females are not expected to do certain jobs. Some females indicated that they accepted this practice, but others refused the assistance.

"In some instances, there will be those that say no don't do this, ask a guy to help, especially when it requires lifting and heavy duty stuff. I also feel that those need to be handled by men"(P07).

"I don't want that special attention that I am a woman. I refused the assistance, I told them we are equal. There is a section where the car passes above you, normally they don't place women there, but I went" (P06).

There were participants who reported that perceptions held about female capabilities limit their opportunities in the workplace. As a result, females had to work doubly hard to prove that they are capable of doing their jobs.

".....People are thinking that you will not be able to do the job because you are a female.... The guys [males] have recognition simply because they are males" and "you need to sell yourself to be noticed when the contract ends" and "you need to push extra hard and show that you can work as much as the guys can. Whatever he can do, yes they might do it very quickly and it might take me longer, but.... what he can do, I can do" (P04).

4.4.6 Females' perceptions of themselves

The majority of females viewed themselves through the same lenses as the highly male gendered organisation view females in artisan or in apprenticeship occupation. This was observed from the question about their key challenges in their environment. The answers that were provided such as physical strength, being slow workers, falling pregnant, getting married, heavy lifting, and family commitments are an indication that female participants could be an indication that they have internalised how males see them in the industry

"Women get pregnant, and get married and don't come back, and that is why you don't see enough women in the industry"(P02).

".... In the plant, there are differences there. They may not give you the work because as a female you will take longer, or you don't know how to tighten the bolt"(P04).

"They use a system for increases, the system records the time it takes you to work and release a car, but women don't work fast as the guys"(P06).

".... They don't take us seriously; the maternity leave, work against us "(P08).

"The biggest challenge women face in the industry is around pregnancy, not because women are pregnant, it has to do with the training, where the training has to stop for four months, and this counts against the woman"(P15).

"...The challenges faced by women are the difficulty in heavy equipment, the huge commitment of looking after families. Women cannot stay late.....so we try to be sensitive about overtime. The mother must go cook, help with homework"(P16).

As the result, there is an inherent understanding that females have to work harder than their male colleagues. One female fixed a machine that is usually fixed by more than two people. This was done in order to show and prove to her colleagues that she is capable of doing her job.

> *"I was given this responsibility [to fix LOOM - robotic arm] and I took the challenge.....I have never seen anyone change the loom alone, yet I was given the responsibility. I did it.....I paid for that, my body was sore I could not lift my arms the whole week"(P05).*

4.5 Conclusion

In conclusion, females reported differences in how they experience the automotive sector. The majority of the differences was observed in the workplace environment (workshop or plant environment) and not in the training centre. In the training centre, females are given the same curriculum and treated equally according to the participants. The differences that were observed in the workplace are associated with gender and racial discrimination, including workplace politics in the form of favouritism, especially in relation to work allocation and support from supervisors.

The participants referred to a number of challenges such as unfair treatment, sexual harassment, not being taken seriously, stereotyping, profanity, unequal pay, physical strength, slowness in delivering, meeting targets, family responsibilities and the abuse of the payment system by supervisors, managers and colleagues. The majority of participants reported a good supportive working relationship with managers, supervisors and colleagues.

However, the demands of production and meeting targets in the training environment have meant that little feedback is being given to apprentices and

learnership candidates. The performance-related payment system is also limiting the support given to the artisans and apprentices and has been used to victimise and discriminate against the participants.

Chapter 5: Analysis of Research

This chapter provides an analysis of the results obtained in this research study of the learning experiences of female artisans in the South Africa automotive industry. The findings are interpreted in the context of previous research and theories. The chapter is grouped into three themes and these themes are aligned to the three research questions: namely, the general experiences of the participants in the automotive sector; the experiences of the participants with their learning in terms of team interaction, support and feedback; and lastly the experiences of female participants of discrimination in the workplace experiences.

5.1 General experiences of the participants in the automotive sector

It is important to note that the South African automotive sector is a male-dominated industry as is the case with artisan occupations of the automotive sector. The representation of females is low with the Africa female race group representing 68% of female artisan automotive population. Additionally, all female participants who participated in the research were black females coming from a previously disadvantaged background.

The finding of the research on female apprentices and artisan experience in the automotive sector revealed that the general experiences among female participants, from looking for an artisan training programme to being appointed as an artisan, is challenging. These challenges can be argued as being amongst the reasons that are making it difficult for females to complete their artisan training, as seen in the literature; and may affect the retention of females in the sector in which they trained. The majority of females has indicated that they would not be staying in the sector over the long term.

The result from this research supports the existing literature on the experiences of females in male-dominated industries. The literature raises that, females in male-dominated industries are subjected to gender discriminatory practices, prejudice, inaccurate perceptions of their working capabilities and capacity, unequal pay, poor quality of training and feedback, sexual harassment. Moreover, their reproductive and mothering roles are used to close the door to artisan training. In the case of South Africa, this also closes the doors to permanent employment. Female participants interviewed experienced these issues at some stage of their artisan development. For others, it was not necessarily experienced in their current training programme, but in previous training programmes, where they ultimately had to leave or start a new training programme because of the above mentioned challenges.

What was interesting was the fact that females have accepted the gender discriminatory practices or were uncritical of them. They were more critical of racial discrimination taking place. Consequently, this research adds to the available literature the issues of racial discrimination, including, the intersectionality of discrimination with which the South African environment is grappling. The interviewed African females not only had to deal with gender discrimination, which is discussed under Section 5.3, they had to deal with being black females from a disadvantaged background, which also raised the issues of class. It is because the history of artisan occupations in South Africa, has not only had gender discrimination challenges, like the rest of the world, it has had a racial element attached to it (Mbatha et al., 2014; Zwane et al., 2014).

Furthermore, the interviewed experts in the automotive industry raised a challenge that it is difficult to find females to address the equity challenges faced by the sector. Some female participants, on the other hand, refuted this observation, indicating that there is a barrier that exists after finishing their artisan training contract. They allege that the sector recruits them for training only to meet

the transformative agenda, as per the Employment Equity Act. This is another addition to the available literature on apprenticeships. In South Africa, artisans are regarded as employees, not students in the workplace. Therefore, organisations use the statistics of apprentices and learnership candidates as part of their employment statistics. As a result, it would be interesting to separate the apprentices from the overall representation of females in the artisan occupation across the automotive sector, to assess the extent of transformation, and the validity of the claim made by the participants.

In addition, the majority of female participants encountered a challenge when accessing training programmes. This challenge is not particular to females in the South African context. According to the National Development Plan diagnostic review report, acquiring workplace experience in general for both genders is a challenge, citing a weak relationship between the TVET colleges and industry (The Presidency, 2011). Generally speaking, none of the participants received assistance from their TVET institution in finding training programmes. One participant indicated that some colleges are making the students pay for placement. This needs to be explored further by the South African government as it could be amongst those bottlenecks in the system which are leading to fewer artisan output by the TVET system.

5.2 Learning experiences of female participants in the automotive sector

The workplace in which female participants were found is a male-dominated workplace. It is important to note this, as it shapes the learning experiences of females who work in it. In the reviewed literature, the workplace learning is not only regarded as an important component for the artisan occupation (Cunningham et al., 2004; Koen et al., 2012; Pinquart et al., 2003), but also as a crucial factor to enhance and improve the learners' occupational competency (Bai, 2013).

It is important to note that the apprenticeship and learnership programme are structured differently, depending also on the environment. The participants (both males and females–apprentices and learnership candidates) who were in the service industry spent most of their time in the workshop and less in the training academy. However, the participants who were found in the assembly plant spent most of their time in the training academy and less in the assembly plant unless the participants were at the stage of preparing for their trade test. Some participants reported inconsistencies in terms of the implementation of the apprenticeship and learnership programmes within their organisation. The apprentices stayed longer in the workshop or assembly plant than the learnership candidates. This gave the apprentice candidates an advantage over the learnership candidates as they are able to build their networks and support better than their counterparts.

Some of the participants reported a feeling of being excluded from the social networks and the working environment, because of the exclusion from the workshop or assembly plant environment. The literature has shown that the isolation and exclusion from the social networks of the workplace (mentor and support structure) has a detrimental impact on the learning experience of an apprentice (Scullen, 2008; STATSSA, 2013; Taylor, Hamm & Raykov, 2015) as learning is facilitated through the learner's increasing participation, both in and across social practices (Tanggaard, 2006). Female participants also reported differences in their learning experiences between the training academy and the workshop or assembly plant environment. At the academy, female participants felt that the experiences were the same, they were taught the same standards. Therefore, if they (apprentices and learnership candidates) had to fix a gearbox as part of the learning plan, everyone had to fix the gearbox. They all have access to the supervisors of the training module and the managers of the training academy.

All the participants reported that their training module supervisors are patient and helpful. However, this seems to change the minute they set foot into the assemble plant or the workshop (female participants found in the car service and maintenance environment). Females have to face issues of discriminatory practices that are entrenched in the workplace culture. These practices impact on the learning of female participants as the literature confirms. The challenges of access to the right workplace social networks, discrimination (gender and racial), support and feedback on performance, differences in allocation of work all become a minefield they have to cross.

In terms of the access to the right workplace social networks, some participants reported exclusion from the workplace social networks. One participant indicated that her experience is that: "*It's us (apprentices) and them (supervisors, managers, technicians)*" (P02); stating that her workplaces exclusion was not based on her gender, but on her occupation level. In the same workplace, the second participant, who was the first apprentice to be employed, stated that the exclusion experienced was based on workplace politics, namely, only the favourites had access to technicians and management support. In another workplace, one participant highlighted exclusion on the basis of race. She indicated that her supervisor and team were from the white race group. She said they left her alone, and the team took breaks together without her. It is difficult to ascertain whether she was left alone because she was a woman or because she was black, or both. Although her team worked together, her isolation during breaks has created mistrust on her team and ultimately affects the quality of the learning she receives.

Although the above pockets of isolation existed in the experiences of the participants, a significant number of participants felt that their environment was supportive. The support was also along the lines of 'us and them' and good

supervisors or Journeyman that were assigned to the participants. Many of the females who stated they received support, said that it was along the lines of a 'fatherly and brotherly protective love'. The literature, on the type of males found in male-dominated industries that females enter, has discussed these types of males. The problem established in the literature with these supervisors' (cavaliers), is that they turn to turn a blind eye to female challenges and they are the perpetrators of the barriers which the female participants encountered. The literature argues that they refrain from supporting females in the same manner they support males and provide little or no feedback.

In addition, the support that females received from other apprentices, that is the male apprentices, their 'comrades in arms' is argued by the literature to be temporary. These male colleagues are not in competition yet with their female colleagues. They have little experience in competing for more responsibility and are not yet ambitious enough to climb the ladder. The literature argues that once the males start to compete with their female colleagues for career development, they internalise the workplace culture and start to simulate the behaviour of a competitor, another type of men whom the women encounter (Kvande & Rasmussen, 1994). In one of the cases, the female participant who was in competition with her male colleagues, indicated that the tone and support from her colleague changed. She indicated that her male colleague used to ridicule her in front of everyone, make jokes, gave her a hard time, and made her feel stupid. Although she overcame her situation, with support from her supervisor as she indicated, a cavalier, the supervisor's support was to turn a blind eye on what was happening and only motivate her to be strong (Kvande & Rasmussen, 1994).

On the other hand, some participants reported that their workplace (especially the assembly plant or the workshop environment) was hostile and unsupportive. As the result the female participants feel excluded, isolated and unwelcome. These findings are supporting the available literature, which state that highly male

gendered workplaces are found to be hostile and unfair to female participants (Scullen, 2008). It is unfortunate, as the literature claims that these social networks are the fertile ground for learning, especially the soft skills that are not written in the manuals. They are essential for a learner, as they present the learner with opportunities to receive expertise and form relations that might provide feedback and support (Eraut, 2007; TLRP, 2007). As a result, these pockets of exclusion which are found in some workplaces limit the opportunities afforded to female participants and negatively impact the quality of the participants learning.

Interestingly, there was little feedback received by the participants from their supervisors on their learning. However, the absence of this feedback was perceived as a good sign by the participant; and was viewed as the source of trust from their managers. Unfortunately, the research was not extended to male apprentices in order to see if this was a general occurrence or if it was particularly for females. It is reported in the literature that feedback is an essential part of effective learning. It helps students understand the subject being studied and gives them clear guidance on how to improve their learning. Therefore, if the sector has limited feedback mechanisms in place, this affects the quality of learning received by the apprentices in the automotive sector.

Furthermore, there were female participants who indicated that there was a difference in the allocation of work, although not widespread. This affects the context of learning being learned by the participants. One participant indicated that she was sent to sort the storage room; others indicated that during breakdown they are pushed aside while their male counterparts participate in the activity of resolving the problem. Others indicated that they are given a difficult car to service, with almost non existing support or supervision, which affects their targets and payment with little time and huge amounts of pressure to perform. In the case of those who were pushed aside, they indicated that their male counterparts were given tools to loosen or tighten the bolts, while female are perceived as the weaker

sex who would not be able to do these jobs quickly. Therefore, it can be argued that the quality of learning the female participants receive in the automotive industry is unequal.

5.3 Experiences of discrimination in the workplace

There were several participants who reported issues of discrimination in their workplace. The literature shows that the majority of workplace discriminatory practices is overt and employees can be discriminated against in a number of ways. These include, but are not limited to: age; disability; pay or compensation; harassment; nationality; sexual orientation; sexism; ethnicity; bullying; pregnancy; race; class; religion; retaliation; and gender. In the case where one or two of these interfaces, the literature refers to it as intersectionality.

However, often enough those who experience discrimination, may not identify it as such because of their religious or ideological background; or in one workplace one discriminatory practice has such a huge impact that it obscures the rest; or a combination of both to varying degrees, as observed from the responses of the majority participating female apprentices. Some of the participants tended to normalise these practices and showed an internalisation of sexist behaviour or discriminatory practice as normal, thinking 'That's how men behave in terms of chivalry, sexism and sexual harassment'. As a result, these participants, did not see anything wrong with their male counterparts, offering and assisting with carrying their tools. The literature, from gendered occupation highlights the impact of workplace culture on the identity of an employee. The overwhelming response of physical strength as a challenge in the workplace shows this. It can be argued that the overwhelming majority of the participants view themselves as the physically weaker sex of the two genders.

Internalising discriminatory practices as the normal behaviour of the male group has a potential to make females feel powerless, as observed from the participants, and is a major setback in resolving issues of gender discrimination in the workplace. It also leads to a lack of self-confidence, which is important in learning in the workplace, particularly in male-dominated industries. The continued covert organisational practices which maintain discrimination is seen as the culture of the organisation that females must adopt and not challenge if they want to progress from being an apprentice to being a permanent employee.

As a result, part of the coping mechanisms used by the participants is adopting male characteristics or perceived persona. Female participants take on huge and dangerous tasks in the workplace to prove that they are not the weaker sex, and they can do anything a man can do. One female participant changed a robotic arm alone, although, she acknowledges that she had never seen anyone in the organisation change it alone. For the said participant her gamble paid, because she was the first woman to be employed permanently in that specific section of her workplace after her apprenticeship programme. This causes the other female participants feeling that they must prove themselves, work extremely hard (undertaking these daring work activities), harder than their male counterparts to secure an appointment after finishing their apprenticeship or learnership programme.

The fact that these female participants perceive that they have to work doubly hard to show their worth for permanent employment shows that there is to a degree gender discrimination in their environment. However, the participants were not critical of this. They generally responded that there was no gender discrimination in their workplace. This is after the participants had highlighted the challenges of the pay gap, promotional challenges; barriers to employment, preferential treatment, and experiences of sexism.

The participants were, however, critical of the racial discrimination taking place in their environment. This is understandable with the history of South Africa. The apartheid history makes South African sensitive to the issues of race and is at the forefront of the transformation agenda, sometimes at the expense of gender. What can be argued against and labelled racial discrimination does not hold the same weight, when comes to gender. This led to a conclusion that either female participants did not understand what is meant by gender discrimination or gender discrimination practices were normalised, or racial discrimination was their biggest challenge obscuring gender.

Moreover, another type of discrimination that was highlighted by the participants was the issue of promotion or appointment from apprenticeship programmes to permanent posts. This form of discrimination is subtle and an individual will have no certainty as to why they were not hired. Hiring trends of apprentices to permanent position can be used to assess the extent of this discriminatory practice. Some participants also identified the abuse of the system, in a way that enforces the gender pay gap between male and females. One participant indicated that there is a section in her organisation which pays more than the rest, and only males are allocated to that section. Although she was happy that she was allocated to the section at some stage in her training, she was critical that females are overlooked. Another participant reported that on weekends the organisation services some of its machinery, but only their male colleagues were invited or requested to come on Saturday and assist.

5.4 Conclusion

In conclusion, the findings concerning the learning experiences of female apprentices, learnership candidates and artisans is supported by the available

literature on the same topic. The available literature indicates that the experience of female apprentices in a male-dominated industry, includes discrimination, prejudice, persistence inaccurate stereotype, negative perceptions of their work capacities and capabilities, unequal pay, sexual harassment, the negative impact of female reproductive roles in society, the lack of flexible hours, the lack of suitable employment opportunities for training. In addition, there is poor support and encouragement from colleagues and at home, including issues of low self-confidence and self-esteem (Green & Moore, 2004; Kruss & Wildschut, 2015; Lewis et al., 2011; Soroptimist, 2010; STATSSA, 2011).

The participants experienced one or two of these challenges in their workplace environment, although this was uneven across workplaces and participants. In the case of South Africa, there is an element of racial discrimination that is also apparent. This is understandable, because in the South African context, artisan occupation has not only been segregated by gender, but also by race through the enactment of laws. Female participants were mostly uncritical of the gender discriminatory practices, although they experienced this in their workplace. Therefore, the automotive sector needs to address the understanding of what gender discrimination is about, because if this is left unchallenged, it will persist and will hinder the transformation agenda of the sector.

Chapter 6: Conclusion

This chapter focuses on summarising the conclusions about the three research questions guiding this study and it is informed by the findings emerging from the research. There are three research questions, namely, what were the learning experiences of female artisans in the automotive sector during the apprenticeship programme? What were females' experiences of the working environment in relation to the team interactions, support from colleagues, and feedback on their performance? Did females experience issues of gender discrimination at any phase in the artisan development programme? It concludes by summarising the overall experience of female artisans in the South African automotive industry, during the work-based phase of their apprenticeship programme and making suggestions for training.

The findings in relation to the learning experiences, of the research on female apprentices and artisan experience in the automotive sector revealed that the general experiences of female participants, from looking for an artisan training programme, to being appointed as an artisan, have been challenging. Meaningful learning that provides theory and practice is not balanced and the quality of learning of the participating females was unequal.

Although not widespread, there were differences reported in the allocation of work. There were also challenges in term of support reported by some participating females. Female participants reported low levels of confidence in their capability. Exclusion from some social networks, racial and gender discrimination, the limited opportunities provided for them to learn and shine, were also amongst the challenges experienced. These challenges affected the quality of learning for female participants in the Automotive Sector.

The findings in relation to the experiences of the working environment revealed conflicting experiences in relation to the team interaction, support and feedback from their colleagues. These conflicting statements, in some cases, were based on being uncritical of their environment.

Females' experiences of their working environment can be divided into two. The experience in the training academy and those experienced in the workshop or assembly plant. In the training academy the participants reported high levels of support, good team interactions and feedback from trainers and management. In the workshop or assembly plants, the opposite was reported. Team interactions were different, depending on whether the females were dealing with other apprentices or learnership candidates, dealing with technicians and management, dealing with supervisors and teams, with fatherly and brotherly love,with teams that were divided along racial lines, hostile and unsupportive teammatesor dealing with the pressure of meeting targets and time constraints. Therefore, support from colleagues varied and there was little or no direct feedback.

Female participants interviewed reported that they experienced gender discrimination during the work-based phase of their apprenticeship programme. However, a number of female participants highlighted more concerns with racial discrimination than gender discrimination. Gender discrimination was identified as being a barrier to permanent employment. In addition, female participants felt that males and females were not treated equally by the industry in general. There were issues of unfair treatment reported by females such as: sexual harassment; their contributions were not taken seriously; unequal pay with shifts that were designed to benefit men than women; the size of the protective gear and materials not designed for the female body size and figure; pregnancy and family responsibility highlighted as a challenge; and the stereotypical perceptions about the physical strength of women is used against them.

Overall, the study has shown that the quality of learning is unequal between male and female apprentices in the workplaces that were visited. The workplace culture is full of prejudice, gender discrimination, racial discrimination, and barriers to permanent employment opportunities, which are directed towards female apprentices and learnership candidates. This workplace culture affects the ability to learn for females. However, at this stage the researcher cannot generalise to the rest of the automotive industry because of the research study's limitation. It is therefore recommended that the study be broadened to the rest of the Automotive sector, that is, the Eastern Cape and KwaZulu Natal industry clusters. In addition, there is a need to conduct a trace study that will explore the barriers to permanent employment that have been reported by the female participants.

References

Agrawal, T. (2013). Vocational education and training programmes (VET): An Asian perspective. *Asia-Pacific Journal of Cooperative Education*, *14*(1), 5-24. doi:10.1.1.688.302&rep

AIEC. (2015). South Africa Automotive Export Manual. Pretoria, South Africa: Automotive Industry Export Council. Retrieved from http://www.sindipecas.org.br/sindinews/Feiras_Eventos/Automotive_Export_Manual_2015.pdf

Akoojee, S., Gewer, A., & McGrath, S. (2005). South Africa: Skills development as a tool for social and economic growth. In S. Akoojee, A. Gewer, & S. McGrath, *Vocational Education and Training in Southern Africa: A Comparative Study* (pp. 99-115). Human Sciences Research Council, Cape Town: HSRC Press

African Union. (2007). *Strategy to Revitalise Technical and Vocational Education and Training (TVET) in Africa.* Addis Ababa, Ethiopia: African Union. Retrieved from http://info.worldbank.org/etools/docs/library/243614/TVET%20Strategy%20in%20Africa.pdf

Bai, B. (2013). The transition from school world to authentic work world: A model of integrating work into learning in Chinese TVET colleges. Paper presented at the 5th International Network on Innovative Apprenticeship (INAP) Conference, Johannesburg.

Bednarz, A. (2014). *Understanding the non-completion of apprentices.* Adelaide, Australia: National Centre for Vocational Education Research. Retrieved from http://www.ncver.edu.au/publications/2706.html

Billett, S. (2001). Learning through work: Workplace affordances and individual engagement. *Journal of Workplace Learning*, 13(5), 209-214. doi: 10.1108/EUM0000000005548

Billett, S. (2002). Toward a workplace pedagogy: Guidance, participation, and engagement. *Adult Education Quarterly*, *53*(1), 27-43. doi: 10.1177/074171302237202

Bryman, A. (2012). *Social Research Methods.* (4th ed.). New York, United States of America: Oxford University Press.

Centre for Development and Enterprise. (2012). *Vocational Education in South Africa: Strategies for improvement.* (CDE Report Number 3, 2012). Johannesburg, South Africa: Centre for Development and Enterprise. Retrieved from http://www.cde.org.za/wp-content/uploads/2012/12/Vocational%20education%20in%20South%20Africa_%20Strategies%20for%20improvement.pdf

Clus, L. M. (2011). Informal learning in the workplace: A review of the literature. *Australian Journal of Adult Learning*, *51*(2), 355-373.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches.* (2nd ed.). California, United State of America: Sage publications.

Crowston, C. (2008). Women, Gender, and Guilds in Early Modern Europe: An Overview of Recent Research. *International Review of Social History*, *53*(16), 19-44. doi:10.1017/S0020859008003593

Cunningham, I., Dawes, G., & Bennett, B. (2004). *The handbook of work based learning.* England, United Kingdom: Gower Publishing Ltd.

Dagsland, A.H.B., Mykletun, R.J., & Einarsen, S. (2015). "We're not slaves – we are actually the future!" A follow-up study of apprentices' experiences in the Norwegian hospitality industry. *Journal of Vocational Education & Training*, *67*(4), 460 – 481. doi: 10.1080/13636820.2015.1086411

Demirbilek, M. (2010). Policy & Practice: Vocational education in Turkey: The past, changes and the future. *International Journal of Training Research*, *8*(2), 154–164. doi:10.5172/ijtr.8.2.154

Deissinger, T., Heine, R., & Ott, M. (2011). The dominance of apprenticeships in the German VET system and its implications for Europeanisation: a

comparative view in the context of the EQF and the European LLL strategy. *Journal of Vocational Education & Training*, *63*(3), 397-416. doi: 10.1080/13636820.2011.569089

Department of Higher Education and Training. (2013 a). *Statistics on Post-School Education and Training in South Africa: 2010.* Pretoria, South Africa: DHET. Retrieved from http://www.dhet.gov.za/DHET%20Statistics%20Publication/Statistics%20on%20post-school%20education%20and%20training%20in%20South%20Africa%20%202010.pdf

Department of Higher Education and Training. (2013 b). *Statistics on Post-School Education and Training in South Africa: 2011.* Pretoria, South Africa: DHET. Retrieved from http://www.dhet.gov.za/DHET%20Statistics%20Publication/Statistics%20on%20post-school%20education%20and%20training%20in%20South%20Africa%20%202011.pdf

Department of Higher Education and Training. (2014). *Statistics on Post-School Education and Training in South Africa: 2012.* Pretoria, South Africa: DHET. Retrieved from http://www.dhet.gov.za/DHET%20Statistics%20Publication/Statistics%20on%20Post-School%20Education%20and%20Training%20in%20South%20Africa%202012.pdf

Eraut, M. (2007). Learning from other people in the workplace. *Oxford Review of Education, 33(4),* 403-422. doi: 10.1080/03054980701425706

Evans, K. (2006). Achieving equity through 'gender autonomy': the challenges for VET policy and practice, *Journal of Vocational Education & Training*, *58*(4), 393-408. doi 10.1080/13636820601005453

Gamble, J. (2003). A historical perspective on ET curriculum. In J Gamble, *Curriculum responsiveness in the FET Colleges* (pp. 5 -12). Cape Town, South Africa: HSRC Press. Retrieved from http://www.hsrcpress.ac.za/product.php?productid=1945

Fuller, A. & Unwin, L. (1998). Reconceptualising apprenticeship: exploring the relationship between work and learning. *Journal of Vocational Education & Training*, *50*(2), 153-173. doi:10.1080/13636829800200043

Gamble, J. (2012). Models and Pathways to Institutionalise Apprenticeships. *Concept paper commissioned by the Human Sciences Research Council (HSRC). Paper prepared for the DHET Labour Market Intelligence Project. Theme*, *6*.

Green, E., Moore, J., Easton, H., & Heggie, J. (2004). Barriers to women's employment and progression in the labour market in the North East of England. Tennessee, United States: Centre for Social and Policy Research University of Teesside. Retrieved from https://www.tees.ac.uk/docs/DocRepo/Social%20Futures%20Institute/Barriers%20to%20Women.pdf

Guile, D. & Young, M. (1998). Apprenticeship as a conceptual basis for a social theory of learning. *Journal of Vocational Education and Training*, *50*(2), 173-193. doi:10.1080/13636829800200044

Haasler, S. R. & Gottschall, K. (2015). Still a perfect model? The gender impact of vocational training in Germany. *Journal of Vocational Education & Training*, *67*(1), 78-92. doi: 10.1080/13636820.2014.922118

Harris, R., Willis, P., Simons, M., & Collins, E. (2001). The relative contributions of institutional and workplace learning environments: an analysis of apprenticeship training. *Journal of Vocational Education and Training*, *53*(2), 263-278. doi:10.1080/13636820100200159

Hill, C., Corbert, C., & St. Rose, A. (2010). Why So Few? Women in Science, Technology, Engineering, and Mathematics. Washington, United State: American Association of University Women (AAUW). Retrieved from

http://www.aauw.org/files/2013/02/Why-So-Few-Women-in-Science-Technology-Engineering-and-Mathematics.pdf

Høst, H., Seland, I., & Skålholt, A. (2015). Gender policies meet VET practices–the case of health and social care in Norway. *Journal of Vocational Education & Training*, *67*(1), 109-126. doi: 10.1080/13636820.2014.958869

Human Sciences Research Council. (2014). *Human Sciences Research Council Review: April/May 2014.* Retrieved from http://www.hsrc.ac.za/uploads/pages/1278/HSRC%20Review%20May%202014%20sml.pdf

Innes, D., Kentridge, M., & Perold, H. (1993). *Reversing Discrimination: Affirmative Action in the Workplace.* Cape Town, South Africa: Oxford University Press.

Ivan, M. & Albu, R. G. (2014). A new model of Vocational Education and Training in Brasov County. *Bulletin of the Transilvania University of Brasov. Economic Sciences. Series V*, *7*(1), 77.

Kennedy, O. O. (2012). Philosophical and sociological overview of vocational technical education in Nigeria. *College Student Journal*, *46*(2), 274.

Koen, J., Klehe, U. C., & Van Vianen, A. E. (2012). Training career adaptability to facilitate a successful school-to-work transition. *Journal of Vocational Behaviour*, *81*(3), 395-408. doi:10.1016/j.jvb.2012.10.003

Kruss, G., Wildschut, A., Janse van Rensburg, D., Visser, M., & Haupt, G. (2012). *Developing skills and capabilities through the learnership and apprenticeship pathway systems synthesis report: Assessing the impact of learnerships and apprenticeships under NSDS II.* Cape Town, South Africa: HSRC. Retrieved from www.hsrc.ac.za/en/research-data/ktree-doc/13800

Kvande, E. & Rasmussen, B. (1994). Men in male-dominated organisations and their encounter with women intruders. *Scandinavian Journal of Management*, *10*(2), 163-173. doi:10.1016/0956-5221(94)90018-3

Lewis, G., Thoresen, S. H., & Cocks, E. (2011). Post-course outcomes of apprenticeships and traineeships for people with disability in Western Australia. *Journal of Vocational Rehabilitation*, *35*(2), 107-116. doi: 10.3233/JVR-2011-0558

Little, B. & Brennan, J. (1996). *A Review of Work based Learning in Higher Education, London: Quality Support Centre and Open University*. Retrieved from http://oro.open.ac.uk/11309/

Manuti, A., Pastore, S., Scardigno, A. F., Giancaspro, M. L., & Morciano, D. (2015). Formal and informal learning in the workplace: a research review. *International Journal of Training and Development*, *19*(1), 1-17. doi: 10.1111/ijtd.12044

Martin, P. & Barnard, A. (2013). The experience of women in male-dominated occupations: A constructivist grounded theory inquiry. *South African Journal of Industrial Psychology*, *39*(2), 01-12. doi: 10.4102/sajip. v39i2.1099

Mbatha, N., Wildschut, A., Mncwango, B., Ngazimbi, X. & Twalo, T. (2014). *Towards understanding the distinctive nature of artisan training: Implications for skills planning in South Africa*. Cape Town, South Africa: Labour Market Intelligence Partnership (LMIP). Retrieved from http://www.lmip.org.za/sites/default/files/documentfiles/HSRC%20LMIP%20Report%202%20Web_0.pdf

Meredith, J. (2011). Apprenticeship in Canada: where's the crisis?. *Journal of Vocational Education & Training*, *63*(3), 323-344. doi: 10.1080/13636820.2011.570453

merSETA. (2015). *Sector Skills Plan Update 2015/16 – 29/2020*. [unpublished].

Merriam, S. (2002). *Introduction to Qualitative Research* (1st ed.). San Francisco, United States: Jossey – Bass.

Mills, M., & Prag, P. (2014). *Gender inequalities in the school - to - work transition in Europe: Short Statistical Report No. 4*. Washington, United State:

European Union. Retrieved from http://ec.europa.eu/justice/gender-equality/files/documents/140502_gender_equality_workforce_ssr4_en.pdf

Mouton, E. (1998). *The practice of Social Research.* New York, United States: Oxford University Press.

Mupinga, D. M. & Livesay, K. (2004). Consider vocational-technical education for post-secondary education. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, *77*(6), 261-263. doi:10.3200/TCHS.77.6.261-263

Mumford, J. & Roodhouse, S. (2010). *Understanding work-based learning.* Surrey, England: Gower Publishing, Ltd.

Neuman, W. L. (2006). *Social Research Methods: Qualitative and Quantitative Approaches* (6th ed.). Boston, United States: Pearson.

Nielsen, K. (2008). Gender, learning and social practice. *Vocations and Learning*, *1*(3), 173-190. doi:10.1007/s12186-008-9010-5

Niemeyer, B. & Colley, H. (2015). Why do we need (another) special issue on gender and VET?. *Journal of Vocational Education & Training*, *67*(1), 1-10. doi:10.1080/13636820.2014.971498

OECD. (2008). *Review of the National Policies for Education: South Africa.* Paris, France: Organisation for Economic Co-operation and Development (*OECD*). Retrieved from http://www.education.gov.za/LinkClick.aspx?fileticket=sKsxhYorWOk%3D&tabid=452&mid=1034

Oketch, M. O. (2007). To vocationalise or not to vocationalise? Perspectives on current trends and issues in technical and vocational education and training (TVET) in Africa. *International Journal of Educational Development*, *27*(2), 220-234. doi: 10.1016/j.ijedudev.2006.07.004

Okolocha, C. (2012). Vocational Technical Education in Nigeria: Challenges and the Way Forward. *Business Management Dynamics*, 12(6), 01-08.

Pinquart, M., Juang, L. P., & Silbereisen, R. K. (2003). Self-efficacy and successful school-to-work transition: A longitudinal study. *Journal of*

Vocational Behaviour, *63*(3), 329-346. doi:10.1016/S0001-8791(02)00031-3

Rahman, A., Hanafi, N., Mukhtar, M., & Ahmad, J. (2014). Assessment Practices for Competency Based Education and Training in Vocational College, Malaysia. *Procedia-Social and Behavioural Sciences, 112*(7), 1070–1076. doi:10.1016/j.sbspro.2014.01.1271

Scullen, J. (2008). *Women in male dominated trades: It's still a man's world*. Canada, North America: Saskatchewan Apprenticeship and Trade Certification Commission. Retrieved from https://www.aauw.org/files/2013/02/Why-So-Few-Women-in-Science-Technology-Engineering-and-Mathematics.pdf

Semali, L. M. & Shakespeare, E. S. (2014). Rethinking Mindscapes and Symbols of Patriarchy in the Workforce to Explain Gendered Privileges and Rewards, *International Education Studies*, *7*(2), 37-53. doi:10.5539/ies.v7n2p37

Soroptimist. (2010). *Women at Work: Soroptimist White Paper - Learn about women in the working world, the issues they face, and what needs to be done.* Retrieved from https://www.soroptimist.org/whitepapers/whitepaperdocs/wpwomenatwork.pdf

Snell, D. & Hart, A. (2008). Reasons for non-completion and dissatisfaction among apprentices and trainees: a regional case study. *International Journal of Training Research*, *6*(1), 44-73. doi.org/10.5172/ijtr.6.1.44

Statistics South Africa. (2013). *Gender statistics in South Africa, 2011.* Pretoria, South Africa: Statistics South Africa. Retrieved from http://beta2.statssa.gov.za/publications/Report-03-10-05/Report-03-10-052011.pdf

Tanggaard, L. (2006). Situating gendered learning in the workplace. *Journal of Workplace Learning*, *18*(4), 220-234. doi: 10.1108/13665620610665827

Taylor, A., Hamm, Z., & Raykov, M. (2015). The experiences of female youth apprentices in Canada: just passing through?. *Journal of Vocational Education & Training*, *67*(1), 93-108. doi:10.1080/13636820.2014.896404

TLRP. (2007). *Putting Knowledge to Work: Integrating work-based and subject-based knowledge in intermediate-level qualifications and workforce upskilling.* London, United Kingdom: Teaching and Learning Research Programme. Retrieved from http://www.tlrp.org/pub/documents/EvansRB60.pdf

TUC & YWCA. (2010). *Apprenticeship and gender.* Retrieved from http://www.unionlearn.org.uk/sites/default/files/apprenticeships_and_gender_tuc_format1.pdf

UNESCO. (2010). *Reaching the marginalised: EFA Global Monitoring Report 2010.* Paris, France: United Nations Educational, Scientific and Cultural Organisation (UNESCO) Publishing. Retrieved from http://unesdoc.unesco.org/images/0018/001865/186525e.pdf

UNESCO. (2013). *Status of TVET in SADC Region.* Paris, France: United Nations Educational, Scientific and Cultural Organisation (UNESCO) Publishing. Retrieved from http://unesdoc.unesco.org/images/0022/002256/225632e.pdf

Wallin, D. L. (2010). Vocational Education and Training workforce. *International Encyclopaedia of Education (3rd ed.)*, 513-518. doi:10.1016/B978-0-08-044894-7.00807-1

Wedekind, V. (2013). Rearranging the furniture: Shifting discourses on skills development and apprenticeship in South Africa. Paper presented at the 5th International Network on Innovative Apprenticeship (INAP) Conference, Johannesburg.

World Bank. (2013). *Towards A Model Apprenticeship framework: A comparative analysis of national apprenticeship systems.* Washington, United States: The World Bank. Retrieved from

http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-new_delhi/documents/publication/wcms_234728.pdf

Zwane, J.V., Surujlal, J. & Dhurup, M., 2014. Relevance of Further Education and Training College Engineering Learning Programmes within The Apprenticeship Context. *Mediterranean Journal of Social Sciences*, *5*(23), 990-998. doi:10.5901/mjss.2014.v5n23p990

Appendix 1: Introduction Letter

Dear Sir/Madam,

REQUEST TO INTERVIEW FEMALE APPRENTICES/ARTISANS

My name is *Thandokazi Ndileka Teti*. I am a student at the University of the Witwatersrand School of Public and Development Management doing a Master's degree in Public and Development Management.

I am conducting research on the learning experiences of female artisans in the automotive industry in South Africa. This research is towards the partial fulfilment of the requirements for my Master's degree and it is hoped that it will assist in the understanding the specific learning challenges of women in the artisan development programme and ultimately assist in developing interventions that will support females throughout the programme.

Participation:

I would like to request that you take part in this research study by allowing me to interview you about your learning experiences during your apprenticeship and as a newly qualified artisan. If you agree to be interviewed, the interview will take approximately an hour of your time. I also like to request your permission to record the interview for the purposes of accurately recording our interview. Please understand that your participation is voluntary, and that you can stop the interview at any time should you do not wish to continue with the interview.

Confidentiality

Any study record that identifies you will be kept confidential to the extent possible by law, and only my supervisor and I will be aware of your identity as per the

University of Witwatersrand ethics standards. Therefore, your participation and the records of the interview will be kept confidential and will only be utilised for the purpose of the study.

The information that you provide will not be published unless you give your specific permission in writing at the end of this consent form. In my research report, I will not use your real name. There will not be any direct benefits for you in the study; however, the findings may be used to assist the Department of Higher Education in attracting and promoting women in artisan development programmes.

If you are interested in the outcomes of the study, kindly contact me on this email addressThandokazi.Teti@dst.gov.za and I will be happy to provide you with this information. Kindly sign the consent form attached herein for record purposes.

Thanking you in anticipation of your participation.

Kind Regards,
Thandokazi

Consent Form:

I _____, hereby give consent to take part in the research study on women artisans. I understand the purpose of the research study and I have been informed that my participation is completely voluntary, which implies that I can stop at any point should I not want to continue.

I have also been informed that the interview is confidential and that I do not stand to benefit personally from the study, but the findings will benefit the country through the Department of Higher Education and Training having more information on the artisan development programmes.

_____ _____

Signature of participant Date

Appendix 2: Interview Schedule

Company Code allocated by a researcher	Participants' code allocated by a researcher	Participants' trade of choice	Occupation	Date and time of the interview	Type of interview	Meeting Venue
A	P01	Motor Mechanic	Apprenticeship, Level 3	24/Nov/2015; 11:20 am	Face to Face	Inside their offices, Alberton
A	P02	Motor Mechanic	Apprenticeship, Level 4	24/Nov/2015; 14:19 pm	Face to Face	Outside their offices, Alberton
B	P03	Motor Mechanic	Apprenticeship, Level 4	26/Nov/2015; 12:53 pm	Face to Face	Inside their offices, Boksburg
C	P04	Mechatronics	Qualified Artisan	10/Dec/2015; 11:13 am	Face to Face	Inside their offices, Pretoria
C	P05	Mechatronics	Qualified Artisan	10/Dec/2015; 11:45 am	Face to Face	Inside their offices, Pretoria
C	P06	Autotronics	Learnership, Level 4	10/Dec/2015; 12:30 pm	Face to Face	Inside their offices, Pretoria
C	P07	Mechatronics	Learnership, Level 3	10/Dec/2015; 13:11 pm	Face to Face	Inside their offices, Pretoria

Company Code allocated by a researcher	Participants' code allocated by a researcher	Participants' trade of choice	Occupation	Date and time of the interview	Type of interview	Meeting Venue
C	P08	Autotronics	Qualified Artisan	10/Dec/2015; 13:36 pm	Face to Face	Inside their offices, Pretoria
C	P09	Mechatronics	Learnership, Level 2	10/Dec/2015; 13:59 pm	Face to Face	Inside their offices, Pretoria
C	P10	Mechatronics	Learnership, Level 2	10/Dec/2015; 14:38 pm	Face to Face	Inside their offices, Pretoria
C	P11	Mechatronics	Learnership, Level 2	10/Dec/2015; 15:14 pm	Face to Face	Inside their offices, Pretoria
D	P12	Motor Mechanic	Apprenticeship, Level 4	09/Dec/2015; 13:22 pm	Telephone	Inside their offices, Klerksdorp
D	P13	Motor Mechanic	Apprenticeship, Level 1	09/Dec/2015; 15:22 pm	Telephone	Inside their offices, Klerksdorp
D	P14	Motor Mechanic	Apprenticeship, Level 3	09/Dec/2015; 15:39 pm	Telephone	Inside their offices, Klerksdorp
merSETA	P15	Artisan development coordinator		08/Dec/2015; 16:02 pm	Face to Face	Inside their offices, Johannesburg
C	P16	Artisan development coordinator			Face to Face	Outside their offices, Pretoria