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PERCEIVED IMPACT OF SCHOOLS OF SPECIALIZATION IN GAUTENG PROVINCE OF SOUTH AFRICA- A CASE STUDY

UNIVERSITY OF THE WITWATERSRAND

FACULTY OF HUMANITIES

SCHOOL OF EDUCATION

MASTER OF EDUCATION M. ED

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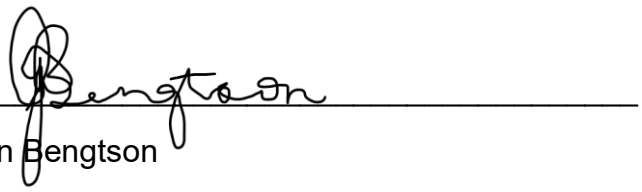
COURSE CODE : **EDUC 7030A**

SUPERVISOR : **Professor Brahm Fleisch**

DECLARATION

I, Alison Bengtson, declare that this research is my own work except as indicated in the references and acknowledgements. It is submitted in practical fulfilment of the requirements for the degree of Master of Education at in the Faculty of Humanities at the School of Education at the University of the Witwatersrand, Johannesburg. This report has not been submitted before for any degree or examination in this or any other university.

Signed at……Jhb……on the……17/03/2025……..



Alison Bengtson

ACKNOWLEDGMENT

First and foremost, I would like to thank God Almighty for granting me the strength, resilience, and tenacity to walk this journey. Without His guidance and grace, completing this study would not have been possible.

I extend my deepest gratitude to my family, who supported me unconditionally throughout this process. Their understanding, patience, and willingness to give me the time and space I needed have been invaluable, and I am forever grateful.

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I would also like to sincerely thank Professor King Costa and Lethlogonolo Mfolo from the Costa Research Institute for their crucial involvement in data collection and for the use of the COSTAQDA Software. Their expertise helped me navigate ethical considerations, particularly as I serve as a Deputy Director General responsible for the Schools of Specialisation Programme.

Lastly, I would like to thank my staff and colleagues for their continued support and encouragement. Your belief in my work has been both motivating and humbling.

ABSTRACT

The Schools of Specialisation (SoS) initiative in Gauteng Province, South Africa, represents a significant shift in the education system, aiming to bridge the gap between secondary education and industry-specific skill demands. This case study investigates the perceived impact of the SoS programme on Gauteng's educational landscape, with a particular focus on how various stakeholders—students, teachers, parents, community members, and industry partners—evaluate its effectiveness. Amid South Africa's ongoing struggle with educational inequality, curriculum relevance, and youth unemployment, SoS institutions were designed by the Gauteng Department of Education to cultivate expertise in Science, Technology, Engineering, Arts, and Mathematics (STEAM), finance, entrepreneurship, and sports, among other sectors. The study critically assesses whether these schools are achieving their intended objectives of enhancing student outcomes, equipping learners with industry-relevant skills, and promoting educational equity.

Utilizing a qualitative case study methodology, the research draws upon semi-structured interviews, document analysis, and observations. The data was analysed using Braun and Clarke's thematic analysis and Krippendorff's content analysis, facilitated by the COSTAQDA software. The theoretical underpinning combines Educational Change Theory and Stakeholder Theory, offering a dual lens for examining institutional transformation and the role of stakeholder engagement in education reform. This approach enables a comprehensive understanding of both systemic change processes and the lived experiences of those directly involved in or affected by the SoS initiative.

Findings reveal that stakeholder perceptions of the SoS model are multifaceted. Students reported increased motivation, career awareness, and engagement due to the schools' focus on practical, industry-aligned curricula. However, disparities in infrastructure and access to resources between schools emerged as a major concern. Teachers highlighted both the potential of specialized curricula to enhance learning outcomes and the challenges they face due to limited professional development and inadequate teaching resources. Parents generally viewed SoS positively but raised concerns regarding accessibility and communication from school leadership. Industry partners noted the potential for aligning education with labour market needs but

emphasized the need for stronger partnerships and more consistent collaboration with schools.

The study also identifies critical gaps in knowledge, practice, methodology, and evidence concerning the SoS programme. Key challenges include inconsistent curriculum implementation, insufficient teacher training, and limited monitoring and evaluation mechanisms. The lack of longitudinal data on graduate outcomes hampers efforts to assess the long-term success of the initiative in fostering employability and reducing unemployment. Furthermore, the selective admission policies of some SoS institutions were found to limit access for learners from disadvantaged backgrounds, potentially undermining the equity goals of the programme.

Despite these challenges, the study highlights several strengths of the SoS model. These include increased alignment between education and industry needs, improved student motivation, and enhanced opportunities for learners to acquire practical skills. Importantly, the research underscores the need for greater stakeholder engagement, especially in curriculum design, resource allocation, and school governance. Stakeholder alignment is critical to ensuring the relevance, sustainability, and scalability of the SoS model in addressing South Africa's educational and socio-economic challenges.

The research makes three primary contributions. First, it fills a knowledge gap by providing empirical evidence on stakeholder perceptions of specialized education in the South African context. Second, it offers practical insights for policymakers, educators, and industry partners on improving the implementation and effectiveness of SoS institutions. Third, it contributes to theoretical development by applying Educational Change and Stakeholder Theories in a localized context, thereby enhancing understanding of how educational reform can be tailored to meet both global standards and local needs.

While Schools of Specialisation have the potential to transform education and improve economic outcomes in Gauteng, their success hinges on addressing systemic inequalities, enhancing teacher capacity, and ensuring inclusive access for all learners. The study recommends targeted interventions to strengthen industry partnerships, equitable funding models, and consistent professional development for educators. Moreover, robust monitoring and evaluation frameworks are essential to measure

impact and guide future policy decisions. The findings of this dissertation contribute to the broader discourse on educational reform and provide actionable recommendations for enhancing the relevance, equity, and sustainability of specialized education programmes in South Africa.

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No tables in this report

LIST OF ACRONYNMS

SoS	Schools of Specialisation
GDE	Gauteng Department of Education
CAPS	Curriculum and Assessment Policy Statement
STEAM	Science, Technology, Engineering, Arts, and Mathematics
ICT	Information and Communication Technology
UJ	University of Johannesburg
UJ-AL	University of Johannesburg – Advanced Learning
SACE	South African Council for Educators
HSRC	Human Sciences Research Council
UNESCO	United Nations Educational, Scientific and Cultural Organization
OECD	Organisation for Economic Co-operation and Development
M.Ed	Master of Education
COSTAQDA	Costa Qualitative Data Analysis Software
NQF	National Qualifications Framework
TVET	Technical and Vocational Education and Training
NSC	National Senior Certificate
DBE	Department of Basic Education
PSET	Post-School Education and Training
DHET	Department of Higher Education and Training
QCTO	Quality Council for Trades and Occupations
UNISA	University of South Africa

CHAPTER ONE- ORIENTATION

1.1 INTRODUCTION

This chapter provides a foundational understanding of the study by outlining the key elements that inform the research. It begins by introducing the concept of Schools of Specialisation (SoS) and their intended role in addressing educational and workforce-related challenges in Gauteng Province. The chapter further elaborates on the background of the study, identifying gaps in the existing knowledge and contextualizing the research within South Africa's educational framework. The significance of the study is discussed, emphasizing the relevance of investigating the effectiveness of SoS in equipping students with industry-specific competencies. Additionally, the chapter outlines the research problem, objectives, and questions that guide the study. Finally, a structured arrangement of the thesis is presented, ensuring clarity on how the research will unfold in subsequent chapters.

The introduction of Schools of Specialisation (SoS) in Gauteng Province marks a strategic shift in South Africa's educational framework, aimed at bridging the gap between secondary education and industry-specific skill demands. Established by the Gauteng Department of Education (GDE), SoS institutions are designed to cultivate expertise in Science, Technology, Engineering, Arts, and Mathematics (STEAM), as well as other critical sectors such as finance, entrepreneurship, and sports (Taylor,2015). This initiative aligns with global trends in specialized education, ensuring that students acquire not only academic knowledge but also practical, industry-relevant competencies (Darling-Hammond, 2020).

Despite the promise of SoS to enhance South Africa's workforce readiness, a crucial gap remains in assessing their actual impact. Research in specialized education suggests that while such models offer opportunities for skill-based learning, they also pose challenges related to access, funding, and alignment with industry needs (Hanushek & Woessmann, 2011). This study seeks to explore the perceived effectiveness of these schools in equipping students with relevant skills, fostering educational equity, and addressing broader socio-economic needs. By investigating stakeholder perceptions—including students, educators, parents, and industry

partners—this research will provide insight into the strengths, weaknesses, and potential areas for improvement within the SoS model.

1.2 BACKGROUND

Post-apartheid South Africa inherited one of the most unequal education systems in the world, deeply shaped by apartheid-era policies that institutionalised disparities in access, quality, and outcomes (Spaull, 2013). While significant reforms have sought to democratise education, inequalities persist, particularly between urban and township schools. This challenge is not unique to South Africa; across the Global South, countries grapple with balancing equitable access to education with the demand for globally competitive skills (Tikly, 2019). Within this context, specialised schooling models—such as magnet schools in the United States, technical and vocational education in Asia, and SoS in South Africa—have been introduced as targeted interventions to address systemic inequities while aligning curricula to economic development needs.

The Schools of Specialisation model represents an attempt to address these challenges by offering focused curricula tailored to industry needs. However, these schools remain relatively unknown, and their operational mechanisms are not well documented. One key issue is the selection and admission criteria for these schools. While some Schools of Specialisation adopt a rigorous and competitive admission process based on academic merit, talent identification, or aptitude tests, others rely on a proximity-based enrollment system. This variation raises questions about equity and access, particularly for students from disadvantaged backgrounds who may not have the same preparatory opportunities as their more privileged counterparts (Mestry, 2022). Additionally, the specialized training required for teachers within these institutions presents a distinct challenge. Teachers are expected to undergo targeted professional development to equip them with the skills necessary to implement specialized curricula. However, existing research suggests that continuous professional development opportunities are inconsistent and vary depending on school funding and private sector involvement (Maringe & Moletsane, 2015).

Another critical aspect of the SoS model is its reliance on government funding and private-sector partnerships. While government funding provides the baseline financial support for these schools, private industry partnerships play a crucial role in supplementing resources, providing industry mentorship programs, and facilitating

hands-on learning experiences for students. However, this dual funding approach also creates disparities in resource allocation, as schools with stronger corporate ties tend to have better facilities, infrastructure, and learning materials than those without such partnerships (Badat & Sayed, 2014). This leads to a fundamental question regarding whether the SoS initiative truly fosters equitable educational opportunities or simply perpetuates existing socio-economic disparities.

The curriculum design within SoS further differentiates them from mainstream public schools. Unlike traditional education models that follow a standardized curriculum, SoS institutions integrate industry-specific coursework, experiential learning opportunities, and vocational training to prepare students for targeted career pathways. For example, STEM-focused SoS emphasize coding, robotics, and engineering principles, while arts-focused institutions incorporate performance-based learning and creative industry exposure (Fullan, 2007). While this model presents significant advantages in enhancing employability and workforce readiness, concerns remain about its long-term sustainability, especially in contexts where rapid industry shifts may render some specialized curricula obsolete.

Inclusivity and accessibility are also central issues in evaluating the effectiveness of SoS. While these schools are envisioned as catalysts for educational equity, critics argue that their selective nature and focus on high-achieving students may exclude many who do not meet stringent admission requirements. This raises broader concerns about the inclusivity of state-funded education and whether the SoS model truly aligns with South Africa's broader goals of democratizing access to quality education (Sayed & Motala, 2012). While the key focus of the study is on perceived impact of the SoS model from all stakeholder's perspective, it also ascertains whether Schools of Specialisation adequately balance excellence with accessibility, ensuring that students from all socio-economic backgrounds benefit from their offerings.

This research sought to provide a holistic assessment of the Schools of Specialisation in Gauteng Province, evaluating their impact on students' educational trajectories, career aspirations, and long-term employability outcomes. The findings of this study will proffer insights into how these schools can be improved to better serve the educational needs of South African learners while aligning with national economic development goals.

1.3 PROBLEM STATEMENT

The introduction of Schools of Specialisation (SoS) in Gauteng Province was intended to serve as a transformative intervention to address gaps in traditional education by providing industry-aligned training and specialized curricula (Taylor,2015). However, despite their theoretical promise, there is limited empirical evidence on whether these schools are meeting their intended objectives. The lack of comprehensive assessments on their effectiveness has created a gap in understanding the actual benefits and challenges of this initiative (Mestry, 2022).

A key issue is the lack of systematic evaluation regarding the contributions of Schools of Specialisation towards improving student achievements, skill development relevant to the labour market, and addressing historical inequities within the educational sector. The perspectives of various stakeholders, including students, parents, educators, and industry partners, on the value, challenges, and prospects offered by these specialized schools, have not been thoroughly examined (Spaull, 2013; (Mestry, 2022). This oversight impedes the model's development and potential replication across the province and other regions.

Furthermore, while the Schools of Specialisation aim to deliver advanced, targeted curricula in critical economic sectors, there's scant evidence on the effectiveness of curriculum implementation and its alignment with global workforce trends. Issues surrounding the accessibility and inclusiveness of these institutions also raise concerns about their ability to provide equitable educational opportunities, particularly for students from historically marginalized communities (Marishane & Botha, 2016).

A significant concern is that these schools may not be accessible to all students, particularly those from disadvantaged backgrounds. While the SoS model aims to bridge the skills gap, the competitive admission process in some institutions creates an exclusionary framework that benefits only students with prior exposure to specialized fields (Sayed & Motala, 2012). This lack of inclusivity raises concerns about whether SoS are genuinely contributing to equitable education or reinforcing existing socio-economic disparities (Badat & Sayed, 2014).

Moreover, there is a critical lack of teacher capacity to effectively implement specialized curricula. Many educators lack the necessary training to facilitate industry-linked

coursework, leading to inconsistencies in the quality of education provided across different SoS institutions (Maringe & Moletsane, 2015). Without ongoing professional development and sufficient resources, the success of SoS remains uncertain, further necessitating a closer investigation into their actual implementation and outcomes.

The problem is particularly pronounced in Gauteng, where the demand for high-quality, industry-aligned education is high, yet many students still face barriers in accessing such opportunities (Spaull, 2013). If the challenges surrounding SoS are not adequately addressed, the risk is that these institutions may fail to fulfill their promise of bridging the gap between education and industry. This failure would not only impact the students directly but would also hinder economic growth, as industries would continue to experience a shortage of adequately skilled professionals (Hanushek & Woessmann, 2011).

Therefore, this study seeks to critically evaluate the perceived impact and effectiveness of Schools of Specialisation in Gauteng Province, investigating how well they align with their intended objectives and identifying key areas for improvement. Furthermore, this explorative investigation sought to provide evidence-based approaches to enhance the SoS model and ensure that it fulfills its role in preparing South African students for the evolving job market.

1.4 RESEARCH OBJECTIVES

1.4.1 Primary Research Objective

To describe the perceived impact of the Schools of Specialisation on the educational landscape in Gauteng Province

1.4.2 Secondary Research Objective

- To describe how different stakeholders (students, teachers, parents, and community members) perceive the impact of these schools
- To uncover the perceived strengths of the Schools of Specialisation model according to stakeholders
- To determine the perceived weaknesses of the Schools of Specialisation model according to stakeholders
- To ascertain how stakeholder perceptions align with the objectives of the Schools of Specialisation

1.5 RESEARCH QUESTIONS

1.5.1 Primary Research Question

What is the perceived impact of the Schools of Specialisation on the educational landscape in Gauteng Province?

1.5.2 Secondary Research Questions

- How do different stakeholders (students, teachers, parents, and community members) perceive the impact of these schools?
- What are the perceived strengths of the Schools of Specialisation model according to stakeholders?
- What are the perceived weaknesses of the Schools of Specialisation model according to stakeholders?
- How do stakeholder perceptions align with the objectives of the Schools of Specialisation?

1.6 RATIONALE FOR THIS STUDY

Assessing the perceived impact of Schools of Specialisation in Gauteng Province from the diverse viewpoints of stakeholders is paramount to comprehending the full spectrum of their value, effectiveness, and potential areas for enhancement. Stakeholders, encompassing students, parents, educators, industry partners, and community members, each offer unique insights that are crucial for a holistic evaluation of these institutions (Henning, Van Rensburg, & Smit, 2004; Bush & Glover, 2014).

From students' perspectives, understanding their experiences can illuminate the extent to which the curriculum meets their educational needs and aspirations, and prepares them for higher education and the workforce. This feedback can reveal the effectiveness of the specialized education in enhancing student engagement, motivation, and academic achievements (Spaull, 2013).

Parents' viewpoints are equally vital, providing an external assessment of the schools' impact on their children's learning and personal development. Parents can offer valuable feedback on the communication and engagement efforts of the schools, and

their perceptions can influence community support and trust in these institutions (Malindi & Machenjedze, 2012).

Educators and administrators are key internal stakeholders whose experiences can shed light on the implementation challenges of the specialized curricula, resource adequacy, professional development needs, and the overall school climate. Their insights are essential for identifying best practices and areas needing improvement to enhance the teaching and learning environment (Segalo & Rambuda, 2018;Heystek, 2004).

Furthermore, industry partners and community members provide an external perspective on the relevance of the schools' curricula to current industry needs and societal expectations. Their engagement in collaborative projects, internships, and mentorship programs can offer critical feedback on the practical applicability and relevance of the education provided, thus assessing the schools' effectiveness in bridging the gap between education and the labor market (Badat & Sayed, 2014).

Assessing the perceived impact of Schools of Specialisation through the lens of these diverse stakeholders is not just beneficial—it's essential for a comprehensive understanding of the schools' contributions to individual growth, social equity, and economic development. Such multi-faceted insights can inform strategic decisions, policy formulations, and operational adjustments, ensuring that these specialized schools continually evolve to meet the dynamic needs of students and society (Fleisch, Schöer, Roberts, & Thornton, 2017; Marishane & Botha, 2016).

1.7 CONTRIBUTIONS OF THIS STUDY

1.7.1 Overview

The significance of this study on the perceived impact of Schools of Specialisation in Gauteng Province extends beyond the immediate educational context, offering valuable contributions to both the academic knowledge base and practical educational policy and implementation. By exploring the multifaceted perceptions and experiences of various stakeholders involved with these specialized institutions, the study aims to provide a nuanced understanding of how such educational models influence learning outcomes, skill development, and broader societal objectives.

1.7.2 Contribution to Knowledge

Academically, this research fills a critical gap in the existing literature by offering an in-depth analysis of specialized education within a South African context, a subject that has received limited attention in scholarly discourse. It expands the theoretical understanding of educational change and stakeholder engagement by applying these concepts to the unique setting of Gauteng's specialized schools. The findings are expected to contribute to the broader field of education reform by:

- ***Enhancing Theoretical Frameworks:*** By grounding the study in Educational Change Theory and Stakeholder Theory, it provides empirical evidence that may support or challenge existing theories, potentially leading to refinements or new theoretical insights into the process of educational reform and stakeholder influence in education.
- ***Global and Local Insights:*** The study offers a comparative perspective that enriches the global discourse on specialized education, providing insights that may be relevant to similar reforms in diverse educational contexts, thereby broadening the applicability of its findings.

1.7.3 Contribution to Practice

Practically, the study's implications extend to policymakers, educators, and educational leaders, offering evidence-based insights that can inform future educational strategies and policies:

- ***Policy and Implementation:*** The research provides policymakers with a grounded understanding of the strengths and challenges of specialized education models, informing the development of more effective education policies that are responsive to the needs of students, educators, and the labor market. This is particularly relevant in the context of South Africa's ongoing efforts to improve educational outcomes and reduce inequalities.
- ***Educational Quality and Relevance:*** For educators and school administrators, the study highlights best practices, innovative pedagogical approaches, and effective stakeholder engagement strategies within specialized schools. These insights can be leveraged to enhance the quality and relevance of education, ensuring that it aligns with contemporary societal and economic needs (Holtman, et al., 2018).

- ***Community and Industry Engagement:*** By examining the role of community and industry partners in specialized education, the study offers models for successful collaboration that can enhance the practical and real-world relevance of education, ensuring students are equipped with the skills and knowledge necessary for success in the modern workforce.
- ***Equity and Access:*** The research also addresses critical issues of equity and access in specialized education, providing guidance on how these schools can be designed and implemented to ensure all students, regardless of their background, have the opportunity to benefit from high-quality, specialized education.

Finally, the significance of this study lies in its potential to enrich academic understanding and offer practical insights that can significantly improve the design, implementation, and outcomes of specialized education programs. Its contributions to both knowledge and practice are poised to influence educational reform efforts, not only within Gauteng Province but also in broader contexts, ultimately supporting the development of more equitable, effective, and relevant educational systems.

1.8 DEFINITION OF TERMS

1.8.1 Perceived Impact

- **Definition:** Perceived impact refers to the subjective interpretation or assessment of the effects or outcomes of a particular phenomenon, as experienced or observed by stakeholders. It is shaped by personal experiences, social contexts, and available information rather than purely objective data (Patton, 2015).
- **Application in the Study:** In this context, perceived impact relates to how different stakeholders—such as students, teachers, parents, and industry partners—view and evaluate the effectiveness, challenges, and benefits of Schools of Specialisation.

1.8.2 Schools of Specialisation (SoS)

- **Definition:** Schools of Specialisation are specialized public institutions established by the Gauteng Department of Education to provide focused, industry-linked education in key economic sectors such as Science, Technology,

Engineering, Arts, and Mathematics (STEAM), finance, entrepreneurship, and sports (Taylor, 2015). These schools aim to bridge the skills gap between secondary education and industry demands.

- **Application in the Study:** This research examines how these schools function, their accessibility, effectiveness, and whether they meet their intended goals of producing industry-ready graduates.

1.8.3 Gauteng Province

- **Definition:** Gauteng Province is one of South Africa's nine provinces and is the economic hub of the country. It includes major cities such as Johannesburg, Pretoria, and Ekurhuleni and is known for its industrial, financial, and educational institutions (Stats SA, 2021).
- **Application in the Study:** The research focuses on the implementation and effectiveness of Schools of Specialisation specifically within Gauteng, considering its urban and semi-urban educational landscape and socio-economic dynamics.

1.8.4 Case Study

- **Definition:** A case study is a qualitative research method that provides an in-depth exploration of a specific instance, group, or setting to understand complex phenomena within real-life contexts (Yin, 2018). It allows for a detailed examination of factors influencing the subject of study.
- **Application in the Study:** This research employs a case study approach to investigate the experiences and perspectives of stakeholders involved in Schools of Specialisation in Gauteng, providing detailed insights into their successes, challenges, and areas for improvement.

1.9 REPORT ARRANGEMENT

This research report is structured into five chapters, each serving a distinct function in the study.

- **Chapter One: Introduction** – This chapter presents the background and rationale for the study, outlines the problem statement, research objectives, and research

questions, and provides a brief overview of the theoretical framework. It also discusses the significance of the study and provides an outline of the research methodology.

- **Chapter Two: Literature Review** – This chapter reviews existing literature relevant to Schools of Specialisation and their impact on education, workforce readiness, and socio-economic development. It explores global trends in specialized education, examines policy frameworks governing these institutions, and identifies theoretical perspectives that inform the study. A critical analysis of past research highlights knowledge gaps that this study aims to address.
- **Chapter Three: Research Methodology** – This chapter details the research design, approach, and methodology used in the study. It explains the qualitative case study approach adopted for the research, describes the data collection techniques (such as interviews, surveys, and document analysis), and outlines the criteria for selecting participants. The chapter also discusses ethical considerations, data analysis techniques, and the limitations of the study.
- **Chapter Four: Data Presentation and Analysis** – This chapter presents the findings of the study based on the data collected. It includes thematic analysis of stakeholder perceptions regarding the effectiveness of Schools of Specialisation, their challenges, and their successes. Findings are compared with existing literature to draw meaningful conclusions about the impact of these schools.
- **Chapter Five: Conclusion and Recommendations** – The final chapter provides a summary of key findings, discusses their implications for policy and practice, and offers recommendations for improving the effectiveness of Schools of Specialisation. It also identifies areas for further research, emphasizing the need for ongoing assessment of these institutions.

1.10 CONCLUSION

This chapter has laid the foundation for the research by providing an overview of the study's purpose, background, and objectives. It has discussed the significance of Schools of Specialisation in Gauteng Province and the rationale for investigating their perceived impact. By exploring the problem statement and outlining the structure of the research report, this chapter has set the stage for the subsequent discussion. The

study's focus on understanding stakeholder perspectives will contribute to the discourse on specialized education and inform policy development.

Given the complexities surrounding the effectiveness of Schools of Specialisation, it is essential to contextualize the research within existing literature. The next chapter, **Chapter Two: Literature Review**, critically examines prior studies and theoretical frameworks related to specialized education models, providing a comprehensive analysis of their implications for the current study.

CHAPTER TWO- LITERATURE REVIEW

2.1 INTRODUCTION

This chapter provides a critical review of existing literature relevant to Schools of Specialisation (SoS) and their role in the South African education system. It explores global and local perspectives on specialized education, examining theoretical frameworks, policy interventions, and empirical studies that inform the understanding of SoS. By engaging with literature on specialized schooling models, industry partnerships, curriculum development, and student outcomes, this chapter contextualizes the study within broader educational discourses. The review also identifies key gaps in knowledge, practice, methodology, and empirical evidence, which this research seeks to address.

2.2 LITERATURE REVIEW TYPOLOGY

A range of scholarly works informs this study, offering insights into the conceptualization, implementation, and evaluation of specialized education. Darling-Hammond (2010) provides a foundational discussion on educational reforms, focusing on equity and access. Her work highlights the importance of aligning education with global economic trends to ensure students develop relevant skills. Through a qualitative review of international education policies, she illustrates how specialized education can serve as a transformative policy tool, particularly for marginalized communities. The implications of her research are central to the study of Schools of Specialisation in South Africa, where disparities in educational quality persist.

Deng and Gopinathan (2016) contribute to the discourse by examining Singapore's high-performing education model. Their study demonstrates how targeted curricula, particularly in STEM fields, drive student achievement and workforce readiness. Using a quantitative analysis of PISA results and policy evaluations, they argue that a structured approach to specialization can yield significant academic benefits. The findings from Singapore provide a valuable comparative framework for understanding how Schools of Specialisation can be optimized to enhance educational outcomes in Gauteng.

In a similar vein, Sahlberg (2011) explores Finland's education reforms, emphasizing the balance between vocational training and academic rigor. His case study approach highlights how a flexible yet structured curriculum fosters both employability and lifelong learning. Unlike systems that focus narrowly on technical skills, Finland's model integrates creativity and problem-solving, ensuring that students are adaptable to shifting labor market demands. This contrast is crucial for assessing whether the South African SoS model is too rigid or if it allows students to develop competencies beyond industry-specific skills.

Germany's vocational education model, as discussed by Walden and Troltsch (2011), provides another international reference point. Their mixed-methods research demonstrates the strengths of a dual apprenticeship system, where theoretical knowledge is reinforced with hands-on industry experience. The success of this system lies in strong collaboration between government, industry, and educational institutions. For South Africa's Schools of Specialisation, this raises important questions about whether similar partnerships are adequately developed to support student transitions into the workforce.

Shifting focus to the South African context, Spaull (2013) delivers a stark critique of the country's education system. Through extensive statistical analysis, he demonstrates how disparities in resource allocation, teacher quality, and student performance perpetuate inequality. His research underscores the urgency of interventions like Schools of Specialisation, yet also raises concerns about whether such initiatives can be effectively scaled to address systemic educational failures. Similarly, Badat and Sayed (2014) explore post-apartheid education reforms, arguing that policies must be both socially just and pragmatically implementable. Their policy analysis suggests that while specialization holds promise, it must not come at the cost of reinforcing existing inequalities.

The role of leadership in education reform is examined by Marishane and Botha (2016), who investigate how school principals influence teacher development and student success. Using a case study methodology, they demonstrate that effective leadership is a key determinant of specialized school performance. Their findings suggest that SoS initiatives require not only specialized curricula but also strong leadership structures to

drive sustained improvements. This is particularly relevant given concerns about teacher preparedness for delivering specialized content.

The question of inclusion and exclusion within specialized education is critically examined by Sayed and Motala (2012). Their qualitative research, involving policy analysis and stakeholder interviews, reveals that targeted schooling models often risk benefitting a select few while leaving many behind. This insight is vital for evaluating whether Schools of Specialisation in Gauteng genuinely enhance educational access or whether they inadvertently perpetuate elitism.

Another pressing issue is the alignment between specialized education and labor market needs. Taylor (2015) investigate the Gauteng Primary Language and Mathematics Strategy, offering evidence on how targeted educational interventions impact learning outcomes. Their quantitative research provides empirical support for the idea that well-designed specialization programs can enhance competency in critical skill areas, such as mathematics and science.

Similarly, Mestry (2022) critiques education policies that purport to promote equity but may, in practice, reinforce existing socio-economic divisions. Her documentary analysis raises concerns about whether the Schools of Specialisation model is accessible to all learners or whether barriers—such as selective admission criteria—undermine its inclusivity.

Freeman's (1984) seminal work on stakeholder theory offers a theoretical lens through which the role of various actors in specialized education can be understood. He argues that education policies must balance the needs and expectations of multiple stakeholders, including government agencies, industry partners, educators, and students. This perspective is echoed in Bryson (2004), who provides a framework for analyzing stakeholder interests and resolving conflicts in policy implementation. The application of these theories to Schools of Specialisation helps illuminate how different groups influence the success or failure of these institutions.

Collectively, these studies provide a robust foundation for understanding the complexities of specialized education. They highlight the opportunities that specialization presents—such as improved workforce alignment and enhanced learning

outcomes—while also acknowledging the risks, including exclusivity, systemic inequality, and the need for sustained stakeholder engagement. This review informs the empirical investigation by identifying key themes and gaps that require further exploration within the South African context

2.3 GLOBAL PERSPECTIVES

The selection of countries analyzed in this section of the report is based on their diverse approaches to specialized education, their historical successes and challenges in implementing vocational and technical training, and their relevance to South Africa's Schools of Specialisation initiative. The United States and the United Kingdom were chosen due to their long-established specialized education models, particularly their STEM academies, Career and Technical Education (CTE) programs, and University Technical Colleges (UTCs), which provide insights into bridging academic learning with labor market needs. Germany was selected for its globally acclaimed dual vocational education system, which has successfully integrated apprenticeships with formal schooling, ensuring seamless transitions from education to employment. Singapore was included due to its government-led, innovation-driven approach to specialized education, particularly in STEM fields, which has positioned the country as a leader in workforce preparedness and economic competitiveness.

The Philippines was examined because of its recent K-12 education reforms, which place a strong emphasis on technical-vocational-livelihood (TVL) tracks, a model that closely resembles the intended structure of Schools of Specialisation in South Africa. Nigeria and Kenya were included as African case studies to provide regional insights into the challenges and opportunities of implementing specialized education in developing economies. Nigeria has pursued technical education reforms, but persistent funding gaps and policy inconsistencies have hindered their success. Kenya, on the other hand, has seen progress in technical and vocational education and training (TVET) but continues to battle negative public perceptions regarding vocational education as a lesser alternative to traditional academic pathways.

South Africa serves as the focal point of this study, as its Schools of Specialisation initiative seeks to learn from global best practices while addressing local socio-economic and educational disparities. Each of these countries offers valuable insights into how specialized education models can be structured, implemented, and sustained. Their experiences help to identify effective strategies, common pitfalls, and potential solutions that can inform the development of Schools of Specialisation in Gauteng Province. By critically examining these international perspectives, this study aims to provide a well-rounded analysis that contributes to both policy discussions and practical implementation strategies for South Africa's specialized education sector.

2.3.1 USA and UK

The United States and the United Kingdom have established specialized education models aimed at improving workforce readiness and increasing student engagement in industry-specific disciplines. In the U.S., Career and Technical Education (CTE) schools and STEM academies have been developed to bridge the gap between secondary education and employment. Darling-Hammond (2010) notes that these institutions integrate real-world applications with theoretical learning, ensuring students develop both conceptual and practical skills. However, critics such as Ball (2012) argue that disparities in funding and access limit the effectiveness of these initiatives, particularly in marginalized communities. Similarly, the UK has introduced University Technical Colleges (UTCs) as a means of fostering industry-specific expertise. According to the Department for Education (2018), UTCs provide an alternative to mainstream secondary education by offering technical education linked to local industries. Despite these innovations, research by Gorard and Smith (2010) suggests that student enrollment and retention rates in UTCs remain a challenge, raising concerns about the sustainability of specialized education in the UK.

2.3.2 Germany

Germany's vocational education system is regarded as one of the most successful models of specialized schooling globally. The dual apprenticeship system, which combines classroom learning with on-the-job training, has been credited with significantly reducing youth unemployment (Walden & Troltsch, 2011). This approach

ensures that students develop skills that align directly with labor market demands, making the transition from education to employment seamless. The involvement of industry stakeholders in curriculum development and training further strengthens the effectiveness of this system. However, critics such as Deissinger (2015) argue that the model's reliance on employer participation may not be easily transferable to countries with weaker industry-education collaboration. South Africa's Schools of Specialisation, while aspiring to adopt a similar industry-linked approach, face structural barriers such as insufficient funding, limited industry engagement, and inconsistent implementation.

2.3.3 Singapore

Singapore's education system is widely recognized for its emphasis on specialized training in STEM fields, vocational education, and industry-driven curricula. Deng and Gopinathan (2016) analyze how Singapore's policymakers have strategically integrated technical and vocational education into the national framework to drive innovation and economic growth. The Institutes of Technical Education (ITE) and polytechnics in Singapore are structured to ensure graduates possess the necessary competencies to meet the demands of global industries. The success of Singapore's model is largely attributed to a strong governmental commitment to education reform and consistent alignment with labor market needs. However, researchers such as Tan (2019) highlight the pressure placed on students to specialize at an early age, which may limit broader educational development. The Schools of Specialisation in South Africa could draw valuable lessons from Singapore's targeted approach but must also address local socio-economic challenges to ensure equitable access to specialized education.

2.3.4 Philippines

The Philippines has been undergoing education reforms to enhance vocational and technical education. The introduction of the K-12 education system includes a strong emphasis on technical-vocational-livelihood (TVL) tracks, aimed at equipping students with industry-specific skills before they complete secondary school (Aquino et al., 2019). This shift aligns the country's education system more closely with global labor market expectations, improving employment prospects for graduates. However, studies by David and Albert (2015) indicate that implementation challenges, including insufficient funding, lack of qualified teachers, and inadequate infrastructure, hinder the

effectiveness of these programs. The Schools of Specialisation in South Africa face similar issues, making it imperative to consider how best to overcome these barriers while ensuring alignment with labor market demands.

2.3.5 Nigeria

Nigeria has made efforts to expand its technical and vocational education sector as part of its broader education reform strategy. Okebukola (2017) argues that while specialized technical schools exist, they are often underfunded and lack industry collaboration, which reduces their effectiveness in preparing students for the workforce. Despite government policies aimed at promoting specialized education, weak enforcement mechanisms and systemic corruption have led to poor outcomes (Adepoju & Adepoju, 2020). For South Africa's Schools of Specialisation to succeed, policymakers must avoid similar pitfalls by ensuring consistent funding, robust monitoring, and stronger partnerships with private-sector stakeholders.

2.3.6 Kenya

Kenya has actively promoted specialized education through its Technical and Vocational Education and Training (TVET) institutions. Wainaina (2020) discusses how the Kenyan government has worked to align vocational curricula with industry needs, leading to an increase in student enrollment in technical courses. However, one major challenge remains the public perception of vocational education as inferior to traditional academic pathways. This societal bias limits the attractiveness of specialized schooling, a challenge also evident in South Africa (Muthaa et al., 2018). To enhance the credibility of Schools of Specialisation, South Africa may need to adopt awareness campaigns and policies that position specialized education as a viable and respected alternative to traditional schooling.

2.3.7 South Africa

South Africa's Schools of Specialisation initiative is a relatively recent intervention aimed at bridging the gap between education and industry. Research by Spaull (2013) and Taylor (2015) highlights critical issues such as inequality in access to quality education, disparities in funding between schools, and inconsistent policy implementation. These challenges raise concerns about whether SoS will fulfill their intended objectives. Unlike

models in countries such as Germany and Singapore, South Africa still struggles with weak industry-school partnerships, limited technical teacher training, and insufficient infrastructure. However, the initiative has significant potential if these issues can be systematically addressed through policy adjustments, stronger stakeholder collaboration, and sustained investment in specialized education infrastructure.

2.4 THEORETICAL FRAMEWORK

2.4.1 Overview

The theoretical framework of this study is grounded in two pivotal theories: Educational Change Theory and Stakeholder Theory. These theories provide a robust foundation for exploring the complexities of educational reform, particularly in the context of specialized schools such as those established in Gauteng Province. The transformation of education systems often involves multiple dimensions, including curriculum restructuring, pedagogical shifts, policy adaptation, and stakeholder engagement. Given the multifaceted nature of Schools of Specialisation, these theories enable a deeper understanding of how specialized education initiatives are conceptualized, implemented, and sustained. Furthermore, these frameworks provide insights into how stakeholder collaboration, policy coherence, and adaptive leadership influence the success or failure of specialized education models.

2.4.2 Educational Change Theory

Educational Change Theory, championed by Fullan (2007), examines the dynamics of educational transformation, emphasizing that meaningful change in schooling requires systemic, structured, and sustained interventions. According to this theory, educational reform is not a linear process but rather a multidimensional phenomenon that integrates shifts in policy, curriculum, teacher development, school culture, and community involvement. In the context of Schools of Specialisation, this theory provides a critical lens for analyzing how the introduction of industry-aligned curricula affects teaching methodologies, student engagement, and institutional adaptability. The case of Germany's dual vocational system (Walden & Troltsch, 2011) exemplifies how structured change in education can lead to improved employability and workforce development, an aspect that Schools of Specialisation in South Africa aim to achieve.

Educational Change Theory also underscores the challenges of policy implementation, particularly in contexts with systemic inequalities and resource disparities. In South Africa, Spaull (2013) highlights the persistent gaps in education quality, which raise concerns about whether Schools of Specialisation can truly function as a transformative force. The experiences of Singapore (Deng & Gopinathan, 2016) further illustrate that education reform requires strong governmental support, clear implementation frameworks, and continuous evaluation. Without such elements, the reform risks being fragmented and ineffective. Thus, this study applies Educational Change Theory to assess whether the structural modifications introduced in Schools of Specialisation are systematically addressing South Africa's longstanding education challenges or merely adding another layer to an already complex system.

2.4.3 Stakeholder Theory

Stakeholder Theory, originally conceptualized by Freeman (1984), is rooted in the idea that organizations and institutions must account for the interests, perceptions, and influences of all parties involved to ensure long-term sustainability and success. Applied to education, this theory emphasizes the importance of engaging a diverse range of stakeholders—including students, teachers, parents, administrators, policymakers, industry partners, and community members—in the development and implementation of specialized education models. The establishment of Schools of Specialisation requires collaboration between the government and private sector entities to ensure industry relevance and resource sustainability.

The integration of Stakeholder Theory into this study is particularly relevant given the challenges associated with stakeholder alignment in educational reform. Research by Bryson (2004) emphasizes that educational initiatives often fail when there is insufficient consultation or misalignment of stakeholder priorities. For example, in Nigeria, Okebukola (2017) highlights that the lack of stakeholder engagement in technical education reforms has resulted in low adoption rates and funding inconsistencies. Similarly, Kenya's technical and vocational education training (TVET) institutions (Wainaina, 2020) demonstrate that engaging employers and community organizations is essential in sustaining specialized education programs. In South Africa, the lack of coordination between government agencies and industry partners has been cited as a major barrier to the effectiveness of Schools of Specialisation Taylor (2015). By applying

Stakeholder Theory, this study explores the extent to which key stakeholders influence the design, funding, implementation, and sustainability of Schools of Specialisation.

2.4.4 Application to the Study

In this study, Educational Change Theory and Stakeholder Theory serve as guiding frameworks for analyzing the introduction and impact of Schools of Specialisation in Gauteng Province. Educational Change Theory informs the examination of the reform process by assessing the strategies used to implement specialized education, the structural changes introduced, and the associated challenges and successes. The empirical evidence from Germany (Walden & Troltsch, 2011), Singapore (Deng & Gopinathan, 2016), and Finland (Sahlberg, 2011) provides comparative insights into how structured change, supported by government policies and industry collaboration, can lead to enhanced educational outcomes. However, as seen in Nigeria (Okebukola, 2017) and the Philippines (Aquino et al., 2019), specialized education reforms often encounter difficulties related to inadequate funding, teacher shortages, and misalignment with labor market needs. This study, therefore, examines whether the implementation of Schools of Specialisation in Gauteng aligns with international best practices and whether it effectively addresses the localized challenges of South Africa's education sector.

Furthermore, Stakeholder Theory is used to explore how different stakeholders perceive and are affected by the introduction of Schools of Specialisation. This involves assessing stakeholder expectations, experiences, and the degree to which their interests are incorporated into policy formulation and implementation. The findings from the UK (Ball, 2012) and Kenya (Wainaina, 2020) emphasize that specialized schools thrive when stakeholders—particularly industry partners—are actively involved in curriculum development and student mentorship programs. South Africa's experience, however, indicates that stakeholder buy-in is still developing, with concerns about funding stability, teacher preparedness, and the accessibility of these schools for marginalized learners (Spaull, 2013).

Integrating these two theories in this study provided a holistic analysis of the reform process, assessing how Schools of Specialisation are conceptualized, implemented, and perceived by various stakeholders. Educational Change Theory helps unpack the

structural and pedagogical modifications introduced through specialized education, while Stakeholder Theory highlights the role of stakeholder collaboration in determining the effectiveness and longevity of these reforms. The intersection of these theories offers a nuanced understanding of how policy-driven specialized education initiatives can be successfully adapted to address both educational inequities and labor market demands.

Through this theoretical framework, the study aims to contribute to discussions on how specialized education in South Africa can be structured to achieve maximum impact. By drawing on empirical evidence from diverse educational systems, the research offers recommendations for improving the sustainability, inclusivity, and relevance of Schools of Specialisation within the South African education landscape.

2.5 CRITICAL ANALYSIS OF LITERATURE WITH RESEARCH OBJECTIVES

2.5.1 RO 1: Describing Stakeholder Perceptions of Schools of Specialisation

2.5.1.1 Students' Perceptions of the Impact on Academic Performance

Literature suggests that students in specialized education settings tend to perform better academically due to curricula designed to match their interests and strengths (Deng & Gopinathan, 2016). Studies from Germany indicate that technical and vocational schools improve subject mastery and retention compared to general education settings (Walden & Troltsch, 2011). However, research in South Africa highlights inequalities among Schools of Specialisation, with some students benefiting from well-equipped institutions while others lack resources, leading to performance disparities Taylor (2015). These findings suggest that the impact on academic performance is contingent upon school infrastructure, curriculum relevance, and teacher expertise. Furthermore, schools with robust partnerships with industry tend to provide students with enriched learning experiences, which positively affect their academic outcomes (Sayed & Motala, 2012). The presence of modern technology and industry-based learning materials in some Schools of Specialisation fosters a more engaging and practical approach to education, leading to improved comprehension and retention of subject matter (Badat & Sayed, 2014).

2.5.1.2 Students' Perceptions of Personal Development

Globally, specialized education has been linked to enhanced problem-solving abilities, independence, and career identity development (Sahlberg, 2011). In Singapore, students develop entrepreneurial and leadership skills due to real-world exposure embedded in their curriculum (Deng & Gopinathan, 2016). In South Africa, however, findings suggest that while technical skills are emphasized, emotional intelligence, adaptability, and leadership training remain limited (Sayed & Motala, 2012). Many students in South African Schools of Specialisation have reported increased self-confidence and motivation due to exposure to hands-on learning experiences and mentorship opportunities with professionals Taylor (2015). However, disparities exist in mentorship access, with students in urban schools receiving more structured guidance than their rural counterparts, leading to uneven personal development across different schools (Badat & Sayed, 2014).

2.5.1.3 Students' Experiences and Notable Changes

Studies from the UK and Finland show that specialized schools foster career certainty, increased student motivation, and a stronger sense of academic purpose (Gorard & Smith, 2010; Sahlberg, 2011). However, South African students report mixed experiences, with some benefiting from enhanced motivation while others struggle with the intensity of specialized curricula (Badat & Sayed, 2014). The challenge is to ensure that specialization does not limit student adaptability or create excessive academic pressure. Some students report an increased workload that impacts their ability to participate in extracurricular activities, which can affect overall student well-being (Sayed & Motala, 2012). Additionally, there is a need to ensure that students who decide to change career paths are not disadvantaged by a highly specialized curriculum that limits academic flexibility.

2.5.1.4 Students' Perceptions of Readiness for Higher Education and the Workforce

In Germany and Finland, structured vocational and technical programs ensure a seamless transition from school to work, leading to lower youth unemployment (Walden & Troltsch, 2011). South Africa, however, faces challenges due to weak industry-school

partnerships and limited hands-on training opportunities Taylor (2015). While Schools of Specialisation aim to improve readiness, gaps remain in practical exposure, workplace integration, and career counseling services. Many students indicate that while they gain technical skills, they lack exposure to real-world business environments, leaving them underprepared for entrepreneurship or employment outside structured apprenticeships (Sayed & Motala, 2012). Universities and colleges have also raised concerns that some graduates from Schools of Specialisation struggle with theoretical components of higher education programs, indicating a need for a better balance between practical and theoretical learning (Badat & Sayed, 2014).

2.5.1.5 Teachers' Perceptions of Academic Achievements

Studies confirm that targeted education improves student engagement and performance, but only when well-resourced. South African teachers report that while students demonstrate higher motivation in specialized schools, infrastructure and resource constraints limit their academic potential (Sayed & Motala, 2012). Furthermore, teachers emphasize that students in Schools of Specialisation who have access to industry professionals through guest lectures, workshops, and site visits tend to show greater enthusiasm and deeper learning engagement than those who rely solely on traditional classroom instruction (Badat & Sayed, 2014).

2.5.1.6 Teachers' Observations of Student Engagement and Attitudes Towards Learning

Research shows that engagement improves when students see a direct link between education and career prospects (Sahlberg, 2011). South African teachers report improved student participation, but also highlight challenges related to differentiated instruction and learner adaptation (Badat & Sayed, 2014). Some teachers argue that while students display high levels of engagement in hands-on practical subjects, there is often a struggle with theoretical components, necessitating improved teaching strategies that integrate both aspects effectively Taylor (2015).

2.5.1.7 Teachers' Assessment of Skill and Knowledge Improvement

In Germany, students in dual-system vocational schools acquire industry-relevant competencies (Walden & Troltsch, 2011). South African educators note technical skill improvements but report gaps in soft skills development, limiting workplace adaptability Taylor (2015). While students become proficient in technical competencies, some employers report that graduates lack communication, teamwork, and problem-solving skills, which are essential for long-term career success (Sayed & Motala, 2012). Teachers suggest that greater emphasis should be placed on interdisciplinary learning to prepare students for the dynamic nature of modern careers (Badat & Sayed, 2014).

2.5.1.8 Teachers' Views on Professional Development in Specialized Education

Global studies emphasize that specialized education requires continuous teacher development (Deng & Gopinathan, 2016). South African teachers express concerns about limited professional training opportunities and outdated teaching resources (Sayed & Motala, 2012). Many teachers report feeling ill-equipped to deliver specialized curricula due to insufficient training programs that align with evolving industry standards Taylor (2015). Additionally, teachers who receive external training and exposure to global best practices in technical education often return to their institutions more empowered to innovate in their classrooms, suggesting a need for expanded professional exchange opportunities (Badat & Sayed, 2014).

25.1.9 Summary of Stakeholder Perceptions regarding SoS

This section has critically analyzed stakeholder perceptions, the strengths and weaknesses of Schools of Specialisation, and the alignment of stakeholder expectations with institutional objectives. The literature highlights that while these schools offer promising opportunities for career-aligned education, challenges such as funding disparities, stakeholder engagement, and curriculum adaptability must be addressed. The next chapter will outline the research methodology used in investigating these issues, detailing the approach, data collection methods, and analytical techniques employed in this study.

2.5.2 RO 2: Identifying Perceived Strengths and Weaknesses of the Schools of Specialisation Model

2.5.2.1 Students' Perspectives on Strengths and Weaknesses of Schools of Specialisation

Students perceive Schools of Specialisation as providing enhanced learning opportunities that align with their career aspirations. The structured curriculum, industry engagement, and specialized focus contribute to greater student motivation and academic success (Deng & Gopinathan, 2016). In South Africa, students in well-equipped Schools of Specialisation express higher confidence in their professional prospects compared to those in mainstream schools Taylor (2015). However, some students highlight the rigid nature of the curriculum as a limitation, suggesting that it restricts academic flexibility and does not accommodate changes in career interests (Sayed & Motala, 2012). Additionally, disparities in resource allocation result in varying educational experiences, with some schools lacking access to the necessary technology and industry partnerships (Badat & Sayed, 2014). Furthermore, some students feel that while they gain technical expertise, they lack exposure to broader interdisciplinary learning, limiting their adaptability in a rapidly evolving job market (Mestry, 2022).

2.5.2.2 Teachers' Perspectives on Strengths and Challenges in Teaching Specialized Curricula

Teachers view Schools of Specialisation as fostering deeper student engagement and improving learning outcomes due to the career-oriented nature of instruction. Research suggests that when teachers receive adequate professional development and institutional support, they are more effective in delivering specialized content (Sahlberg, 2011). However, in South Africa, many teachers report challenges related to inadequate training and a lack of up-to-date teaching resources aligned with industry needs Taylor (2015). The rapid evolution of technology and industry trends means that specialized curricula must be regularly updated, requiring continuous teacher training and investment in educational infrastructure (Badat & Sayed, 2014). The absence of sufficient government support in these areas has created difficulties in maintaining the quality and consistency of specialized education across different schools (Sayed &

Motala, 2012). Teachers also highlight concerns about workload intensification, as they are expected to deliver both theoretical and practical lessons while adapting to evolving industry requirements Taylor (2015).

2.5.2.3 Parents' Perspectives on the Benefits and Limitations of Schools of Specialisation

Parents generally perceive Schools of Specialisation as beneficial due to their potential to provide students with career-aligned skills and increased employability prospects . In regions where these schools have strong industry linkages, parents report greater confidence in their children's future career prospects Taylor (2015). However, some parents express concerns about accessibility, as specialized schools often have strict admission requirements that may exclude students from disadvantaged backgrounds (Sayed & Motala, 2012). Additionally, parents highlight a lack of adequate communication from schools regarding curriculum expectations and career pathways, which hinders their ability to provide informed support to their children (Badat & Sayed, 2014). In some cases, parents feel disconnected from school activities and decision-making processes, limiting their ability to advocate for their children's needs within specialized institutions Taylor (2015).

2.5.2.4 Community Perceptions of the Role of Schools of Specialisation

Communities view Schools of Specialisation as contributing to local economic development by equipping students with industry-relevant skills (Sahlberg, 2011). In regions where schools collaborate with local businesses, there is a noticeable positive impact on youth employment and workforce preparedness (Deng & Gopinathan, 2016). However, inconsistent industry engagement across schools leads to varied outcomes, with some communities benefiting more than others Taylor (2015). Additionally, concerns have been raised about whether these schools prioritize elite students, potentially marginalizing those from lower socio-economic backgrounds (Sayed & Motala, 2012). Ensuring greater equity in access to specialized education is critical for maximizing the broader socio-economic benefits of these institutions (Badat & Sayed, 2014). Furthermore, communities emphasize that a stronger emphasis on local industry needs and more collaborative partnerships with businesses and governmental agencies are necessary to sustain these schools in the long term.

2.5.2.5 Summary of Perceived Strengths and Weaknesses of SoS

Overall, the literature reveals that Schools of Specialisation provide valuable learning experiences, enhancing student motivation, career readiness, and engagement with industry-specific skills. However, significant disparities in resource allocation, teacher training, and industry alignment affect the consistency of their impact. While students and parents acknowledge the benefits of these schools, concerns regarding curriculum rigidity, accessibility, and communication gaps persist. Teachers require more structured professional development opportunities to keep up with technological advancements and industry trends, while communities stress the need for equitable access and sustained industry engagement. Addressing these issues is critical to ensuring that Schools of Specialisation achieve their intended objectives and contribute meaningfully to South Africa's educational and economic landscape.

2.5.3 RO 3: Aligning Stakeholder Perceptions with the Objectives of Schools of Specialisation

The alignment between **stakeholder perceptions** and the **stated objectives** of the Schools of Specialisation (SoS) in Gauteng Province is critical in determining the efficacy and sustainability of this specialized education model. The primary objectives of SoS, as set out by the Gauteng Department of Education, are to equip learners with **industry-relevant skills**, enhance **employability and career readiness**, foster **innovation**, and promote **educational equity** (Taylor, 2015; Badat & Sayed, 2014). This section evaluates the extent to which stakeholder perceptions align with these objectives, drawing on data from students, educators, parents, and industry partners.

1. Industry-Relevant Skills Development

A central aim of SoS is to provide learners with specialized skills that align with the demands of key economic sectors such as STEAM, finance, and entrepreneurship (Deng & Gopinathan, 2016). Industry stakeholders generally support this objective and recognize the value of specialized curricula in preparing learners for the workforce. However, their perceptions also highlight **variations in the quality and depth of industry engagement** across different schools. Some institutions benefit from strong partnerships that facilitate mentorship and practical training, while others struggle to establish meaningful collaborations (Badat & Sayed, 2014). Teachers echoed similar

concerns, noting the need for **structured and sustained industry partnerships** to ensure consistency in skill development and workplace exposure.

2. Employability and Career Readiness

Stakeholders, especially students and teachers, reported that SoS have enhanced **student motivation, career focus, and academic engagement**. These perceptions align well with the SoS objective of improving employability (Sahlberg, 2011). Students particularly valued **hands-on learning experiences** and exposure to real-world contexts, which they believed increased their readiness for both higher education and employment (Taylor, 2015). Nonetheless, many stakeholders pointed to **inadequate access to internships**, limited career guidance services, and a lack of soft skills training, which are essential for well-rounded employability (Sayed & Motala, 2012). This suggests a **partial alignment** between stakeholder experiences and the objective of preparing learners for the evolving labor market.

3. Equity and Access

Promoting educational equity is a key goal of the SoS model, aiming to provide learners from diverse socio-economic backgrounds with opportunities for quality, specialized education. Stakeholder perceptions on this issue are mixed. While some parents and community members acknowledged that SoS have created new pathways for previously marginalized students, others raised concerns about selective admission policies **and** resource disparities (Mestry, 2022). Schools located in affluent areas or with strong corporate ties tend to offer better facilities and learning environments than those in less resourced communities (Badat & Sayed, 2014). Such inequalities challenge the realization of equity-focused objectives, and stakeholders called for more inclusive admission criteria **and** equitable resource distribution to bridge this gap.

4. Teacher Capacity and Curriculum Delivery

Teachers are pivotal in achieving SoS objectives, yet many reported inadequate professional development and limited support for delivering specialized curricula (Sayed & Motala, 2012). This misalignment between teacher readiness and curriculum expectations hampers the effectiveness of SoS in meeting their goals. Teachers

highlighted the need for ongoing training, access to updated teaching materials, and exposure to industry best practices to ensure that specialized instruction is both relevant and effective (Taylor, 2015). Without addressing these capacity issues, the intended outcomes of enhanced skill development and workforce preparedness may remain unmet.

5. Stakeholder Involvement in Governance and Planning

Stakeholder Theory emphasizes the importance of inclusive engagement in policy design and implementation (Freeman, 1984). However, many stakeholders—particularly parents and community leaders—felt excluded from decision-making processes. This lack of involvement diminishes the potential for shared ownership and accountability in the SoS initiative. Engaging stakeholders in curriculum development, resource planning, and monitoring could enhance the alignment between their expectations and institutional objectives (Bryson, 2004). Furthermore, increased collaboration with industry partners would improve the relevance and applicability of the curricula, thus aligning more closely with labor market demands (Wainaina, 2020).

While there is broad support among stakeholders for the objectives of the SoS programme, gaps remain in implementation, particularly around equity, teacher capacity, and stakeholder engagement**.** Aligning stakeholder perceptions with programme objectives requires targeted interventions, including enhanced industry collaboration**,** professional development for educators**, and** inclusive governance mechanisms**.**

2.5.4 Summary of Critical Analysis

This section has critically analyzed the Schools of Specialisation model based on three core research objectives: stakeholder perceptions, the strengths and weaknesses of the model, and the alignment between stakeholder expectations and institutional goals. The analysis draws on empirical evidence from global case studies, highlighting both the advantages and limitations of specialized education models. While these schools have the potential to enhance career readiness and promote economic growth, concerns about accessibility, equity, and long-term sustainability remain significant. The findings underscore the need for greater stakeholder engagement, continuous curriculum

evaluation, and improved policy coordination to ensure that Schools of Specialisation fulfil their intended objectives. The next chapter will discuss the research methodology used in investigating these issues, detailing the approach, data collection methods, and analytical techniques employed in this study.

2.6 GAPS IDENTIFIED

2.6.1 Knowledge Gap

The existing literature on Schools of Specialisation primarily focuses on their theoretical benefits, policy frameworks, and global comparisons. However, there is limited research examining the long-term effectiveness of these schools in preparing students for employment and higher education, particularly in the South African context. While countries such as Germany and Singapore have extensively studied the impact of specialized education on workforce readiness, South African literature remains sparse (Walden & Troltsch, 2011; Deng & Gopinathan, 2016). Additionally, the extent to which Schools of Specialisation address issues of inclusivity and social mobility remains underexplored, leaving a gap in understanding their broader societal impact (Taylor,2015). A significant knowledge gap exists in terms of how these schools contribute to economic development, particularly in disadvantaged communities where education is seen as a tool for social mobility. Future research should explore how these institutions influence career trajectories, lifelong learning habits, and social equity in the South African context.

2.6.2 Practice Gap

While literature supports the concept of specialized education, studies indicate discrepancies between policy intentions and actual implementation. In theory, Schools of Specialisation should function as centers of excellence, providing students with industry-aligned education and hands-on experience. However, many Schools of Specialisation lack sufficient resources, industry partnerships, and teacher training, which affects their ability to provide quality education (Badat & Sayed, 2014). Furthermore, while government policies advocate for specialized education, the operationalization of these policies varies significantly across schools, leading to inequalities in access to quality education Taylor (2015). The practice gap is further highlighted by inconsistencies in student selection criteria, curriculum standardization,

and industry collaboration across different schools. Some schools benefit from robust partnerships with local businesses, while others struggle to secure meaningful engagement with industry stakeholders. To address these gaps, there is a need for more consistent implementation strategies, enhanced funding mechanisms, and targeted interventions that bridge the gap between policy and practice.

2.6.3 Methodological Gap

Much of the existing research on specialized schools relies on case studies, qualitative interviews, and policy reviews, with limited large-scale empirical studies measuring student outcomes. While qualitative approaches provide valuable insights into the lived experiences of students, teachers, and administrators, they often lack the generalizability offered by large-scale quantitative studies (Cunningham & Greene, 2024; Robinson, et al., 2011). There is a lack of longitudinal studies tracking the career trajectories of graduates from Schools of Specialisation, making it difficult to assess their long-term success. Additionally, comparative research between specialized school graduates and mainstream school graduates remains scarce, limiting the ability to draw statistically significant conclusions about their effectiveness (Sahlberg, 2011).

This study addresses the methodological gap by adopting a qualitative case study approach**,** which is particularly useful in exploring new and under-researched phenomena (Creswell & Plano Clark, 2018). Given that there are limited studies on Schools of Specialisation in South Africa, particularly in Gauteng Province, a qualitative approach allows for an in-depth examination of stakeholder perceptions, challenges, and lived experiences**.** This methodology provides nuanced insights that would be difficult to capture through quantitative research alone. Furthermore, qualitative research enables the study to explore contextual factors that may impact the success or failure of Schools of Specialisation, providing rich, descriptive data that can inform future research and policy development.

2.6.4 Theoretical Gap

Most studies on Schools of Specialisation apply general education theories, such as constructivism and vocational education models, but lack a comprehensive theoretical framework tailored to the South African socio-economic context. International studies often adopt frameworks that do not fully account for the structural inequalities and

resource constraints experienced by many South African schools (Sayed & Motala, 2012). Theoretical discussions often omit considerations of systemic inequalities, funding structures, and localized educational challenges, limiting their applicability in the South African educational landscape.

This study fills the theoretical gap by integrating Educational Change Theory and Stakeholder Theory**.** Educational Change Theory (Fullan, 2007) provides a lens through which to understand the complexities of implementing specialized education in diverse socio-economic contexts, while Stakeholder Theory (Freeman, 1984) underscores the role of multiple actors—including students, teachers, parents, and industry partners—in shaping the success of these schools. By utilizing these frameworks, the study offers a more contextually relevant theoretical foundation that can guide future research on Schools of Specialisation in South Africa.

2.6.5 Evidence Gap

Empirical evidence demonstrating the success of Schools of Specialisation remains limited. While international literature highlights the benefits of specialized education models, there is insufficient localized data proving that these schools effectively enhance student employability and industry readiness in South Africa (Deng & Gopinathan, 2016). Many existing studies focus on policy implementation rather than measuring long-term student outcomes. This results in a lack of concrete data on whether students from Schools of Specialisation outperform their counterparts from mainstream schools in the labor market Taylor (2015). Furthermore, there is a lack of evidence on how these schools contribute to national economic growth and whether they effectively address unemployment challenges.

To bridge this evidence gap, there is a need for longitudinal studies that track student progression from school to employment**.** Future research should incorporate quantitative performance indicators such as employment rates, salary progression, and employer satisfaction to provide empirical validation of the Schools of Specialisation model. Additionally, cross-sectional studies comparing specialized school graduates with mainstream school graduates would provide valuable insights into the efficacy of this educational model.

2.7 CONCEPTUAL FRAMEWORK

2.7.1 Overview

The conceptual framework of this study provides a structured approach to understanding the perceived impact of Schools of Specialisation in Gauteng Province. Figure 2.1 provides a conceptual framework proposed by Costa (2020) for demonstrating of depth and intensity regarding conceptual and theoretical frameworks. By integrating stakeholder-based and institutional variables, the framework allows for a comprehensive analysis of how specialized education influences student outcomes, teaching practices, parental engagement, and industry alignment. This study utilizes this framework to bridge identified gaps in knowledge, practice, methodology, theory, and evidence regarding the effectiveness of Schools of Specialisation.

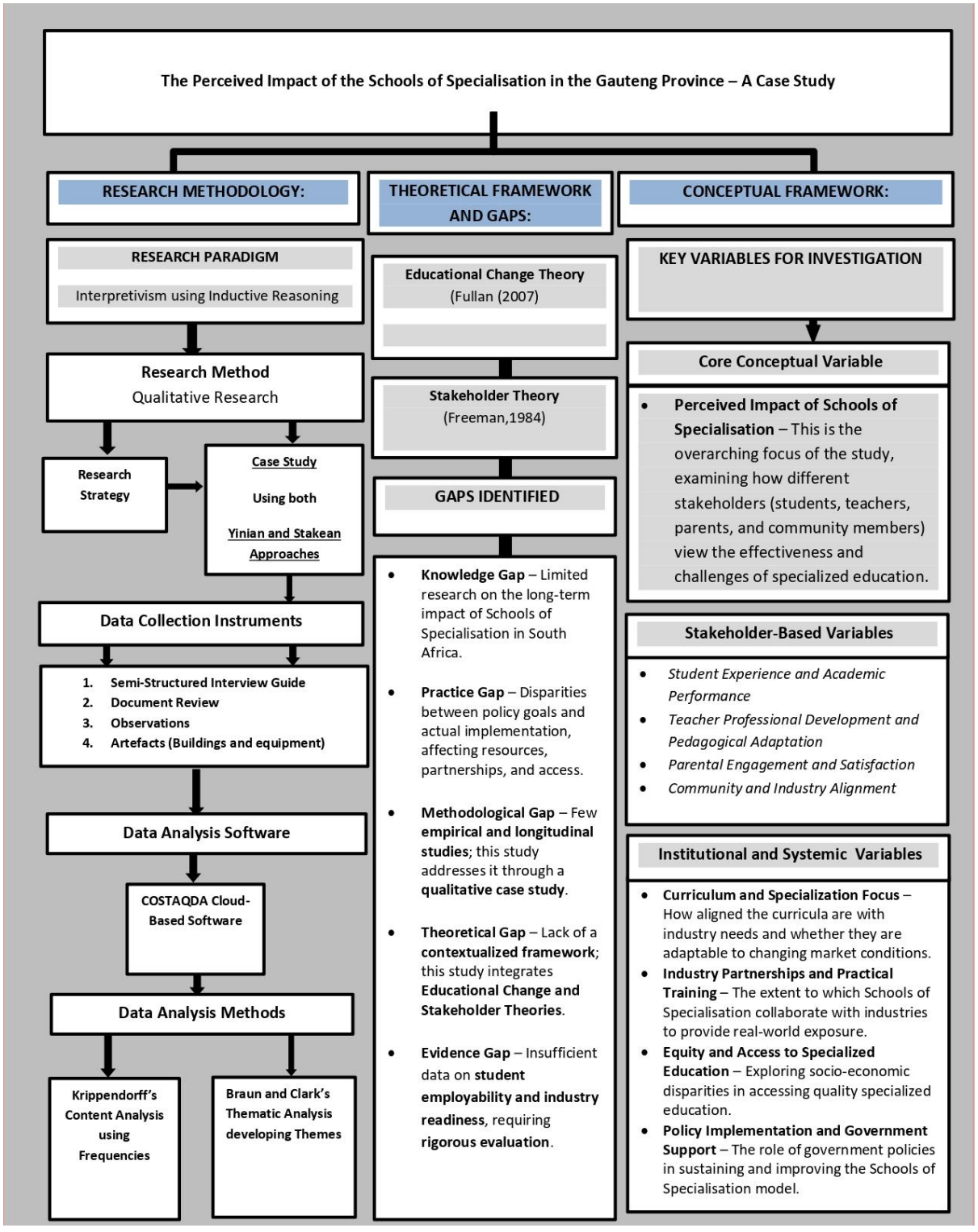


Figure 2.1 Conceptual Framework

Adapted to Costa (2020)

2.7.2 Stakeholder-Based Variables

The effectiveness of Schools of Specialisation is largely shaped by the perceptions and experiences of stakeholders, including students, teachers, parents, and the wider community. Research suggests that specialized education models influence academic performance, skill development, and career preparedness (Deng & Gopinathan, 2016).

Student experience and academic performance are central to understanding the impact of these schools. Students' perceptions of their learning environment, the relevance of their training to future careers, and their overall engagement with specialized curricula are key indicators of success. Studies show that when students receive industry-relevant education, they demonstrate higher levels of motivation and competency development (Walden & Troltsch, 2011). However, disparities in the quality of instruction and access to resources can lead to inconsistent student experiences, highlighting a critical area for further exploration Taylor (2015).

Teachers also play a pivotal role in the success of Schools of Specialisation. The extent to which educators receive professional development and training to deliver specialized curricula affects their ability to support student learning. Research indicates that in many cases, teachers are not adequately trained to integrate industry-specific knowledge into their teaching practices, leading to a disconnect between classroom instruction and workforce demands. Addressing these challenges requires a robust approach to continuous professional development (Sahlberg, 2011).

Parental engagement and satisfaction significantly impact the effectiveness of Schools of Specialisation. Parents' perceptions of whether specialized education adequately prepares their children for employment or further studies shape broader attitudes towards these institutions. Studies suggest that parents in communities with strong industry partnerships view specialized schools as valuable, whereas those in under-resourced areas often express concerns about limited opportunities for progression (Sayed & Motala, 2012).

Furthermore, community and industry alignment determine the extent to which Schools of Specialisation integrate with local businesses, industries, and workforce needs. Research highlights that when these schools establish strong links with industry,

students benefit from hands-on training, mentorship, and internship opportunities, which enhance employability (Badat & Sayed, 2014). However, inconsistencies in industry engagement pose a challenge to ensuring equitable student exposure to workplace skills development.

2.7.3 Institutional and Systemic Variables

Institutional and systemic factors also shape the effectiveness of Schools of Specialisation. One critical aspect is curriculum and specialization focus. The success of specialized education depends on how well curricula are aligned with industry needs and whether they remain adaptable to economic changes. Research shows that in countries with established vocational education systems, regular curriculum revisions ensure that students graduate with skills relevant to evolving labor market demands (Deng & Gopinathan, 2016). However, in South Africa, curriculum alignment remains inconsistent, with some schools lacking the necessary infrastructure to implement specialized programs effectively Taylor (2015).

Another key variable is industry partnerships and practical training. The extent to which Schools of Specialisation offer hands-on industry exposure through internships and collaborations directly affects student preparedness for employment. In Germany's dual education system, for example, structured industry placements contribute to reduced youth unemployment (Walden & Troltsch, 2011). South African schools, however, face significant challenges in securing sustainable partnerships, often resulting in limited work-integrated learning opportunities (Sayed & Motala, 2012).

Equity and access to specialized education remain major concerns. Socio-economic factors influence students' ability to access quality specialized education, with many underprivileged learners facing barriers due to geographic location, affordability, and school capacity (Badat & Sayed, 2014). While specialized education has the potential to bridge socio-economic gaps, inconsistent implementation often exacerbates inequalities instead of alleviating them Taylor (2015).

Policy implementation and government support also play a crucial role in sustaining and improving Schools of Specialisation (SChiloane, 2024). The South African government has introduced policies to enhance technical and vocational education, yet

implementation challenges persist. Literature suggests that weak policy enforcement, inadequate funding, and fragmented governance structures hinder the scalability and sustainability of these schools. Strengthening policy frameworks and ensuring long-term financial investment in specialized education could address many of these limitations (Donohue & Bornman, 2014).

2.7.4 Addressing Gaps Through the Conceptual Framework

This conceptual framework is structured to address the key gaps identified in the literature by systematically analyzing stakeholder perceptions and providing new insights into specialized education (Arendse, 2011). By investigating how Schools of Specialisation function in South Africa, this study expands the limited research on their long-term effectiveness, particularly in relation to employability and economic contributions, thereby closing the knowledge gap. Additionally, it highlights inconsistencies between policy expectations and actual implementation, contributing to an understanding of how disparities in resources, curriculum standardization, and industry engagement can be bridged, addressing the practice gap. The study further fills the methodological gap by adopting a structured, qualitative case study approach, capturing the lived experiences of students, teachers, parents, and community members—an area that has been largely unexplored. In terms of theory, the framework integrates key educational and stakeholder perspectives to offer a holistic and contextually relevant analysis of Schools of Specialisation in South Africa, addressing a gap in existing theoretical models. Finally, by focusing on real-world experiences and stakeholder perceptions, this study provides new empirical evidence on the effectiveness of these schools in addressing employment and skills development challenges, ultimately contributing to the broader discourse on specialized education in South Africa and filling the evidence gap. This conceptual framework is structured to address the key gaps identified in the literature:

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2.8 EMPIRICAL ANCHORS AND SOUTH AFRICAN POLICY CONTEXT

To enrich the contextual backdrop, this study notes empirical trends in science, literacy, and numeracy across diverse school types alongside key South African education policies shaping specialised provision. Large-scale assessments consistently show wide performance gaps by school quintile and language of learning: PIRLS data highlight persistent early-grade reading deficits, especially in African languages; TIMSS results show uneven gains in mathematics and science with stronger outcomes in well-resourced schools; and NEEDU reviews link classroom practice and text-rich pedagogy to improved foundational competencies. These patterns underscore why specialised pathways must be built on robust foundations in reading, writing, and mathematics. Policy frameworks provide the enabling (or constraining) environment: the National Development Plan 2030 prioritises quality basic education and skills alignment; Action Plan to 2024: Towards Schooling 2030 targets curriculum coverage and learning outcomes; CAPS structures subject progressions with emphasis on science and mathematics; the Three-Stream Model (academic, technical–vocational, technical–

occupational) formalises differentiated pathways that intersect with SoS; White Paper 6 advances inclusive education expectations relevant to equitable access in specialised schools; and the National Skills Development and Post-School Education and Training policies aim to strengthen school-to-work linkages. Taken together, the empirical record justifies sustained investment in early literacy and numeracy as prerequisites for successful specialisation, while the policy suite provides a coherent—if unevenly implemented—platform for Schools of Specialisation to align curricula, assessment, and industry partnerships with South Africa's developmental goals.

2.9 CONCLUSION

The literature reviewed in this chapter demonstrates that specialised education occupies a complex and contested space within contemporary schooling, particularly in societies marked by structural inequalities such as South Africa. While global experiences suggest that specialised models can catalyse improved academic performance, enhanced employability, and stronger school-to-work transitions, the evidence equally underscores their vulnerability to inequities in access, resourcing, and sustainability. In the South African context, the Schools of Specialisation initiative emerges as both a response to persistent educational disparities and a policy experiment whose outcomes remain insufficiently documented.

What becomes evident from this review is that the success of SoS depends on more than curriculum differentiation or technical training. Their effectiveness is closely tied to systemic factors, including the alignment of education policy with labour market demands, the preparedness and professionalisation of teachers, the inclusivity of admissions processes, and the depth of industry and community partnerships. Equally important is the recognition that specialised education must not reproduce or entrench patterns of exclusion but instead operate as a lever for broad-based equity and social mobility.

The gaps identified across knowledge, practice, theory, methodology, and empirical evidence reaffirm the need for research that captures the lived realities of stakeholders while interrogating the structural and policy dynamics that shape specialised education. The conceptual and operational frameworks presented in this chapter therefore provide the analytical foundation for such an inquiry, positioning this study to contribute

meaningfully to debates on educational reform, equity, and workforce preparedness in South Africa and the wider Global South.

CHAPTER THREE- RESEARCH METHODOLOGY

3.1 INTRODUCTION

The research methodology for this study on the perceived impact of Schools of Specialisation in Gauteng Province is structured around the Research Onion model developed by Saunders, Lewis, and Thornhill (2019). This model provides a systematic approach to designing and conducting research, encompassing layers that include research philosophies, approaches, strategies, choices, time horizons, and techniques and procedures. This model provides a comprehensive framework for conducting research in a structured manner, encompassing various layers involved in the research process (Saunders, et al., 2019). The research onion illustrates the steps needed to develop a research strategy, starting from the outer layers and moving inwards.

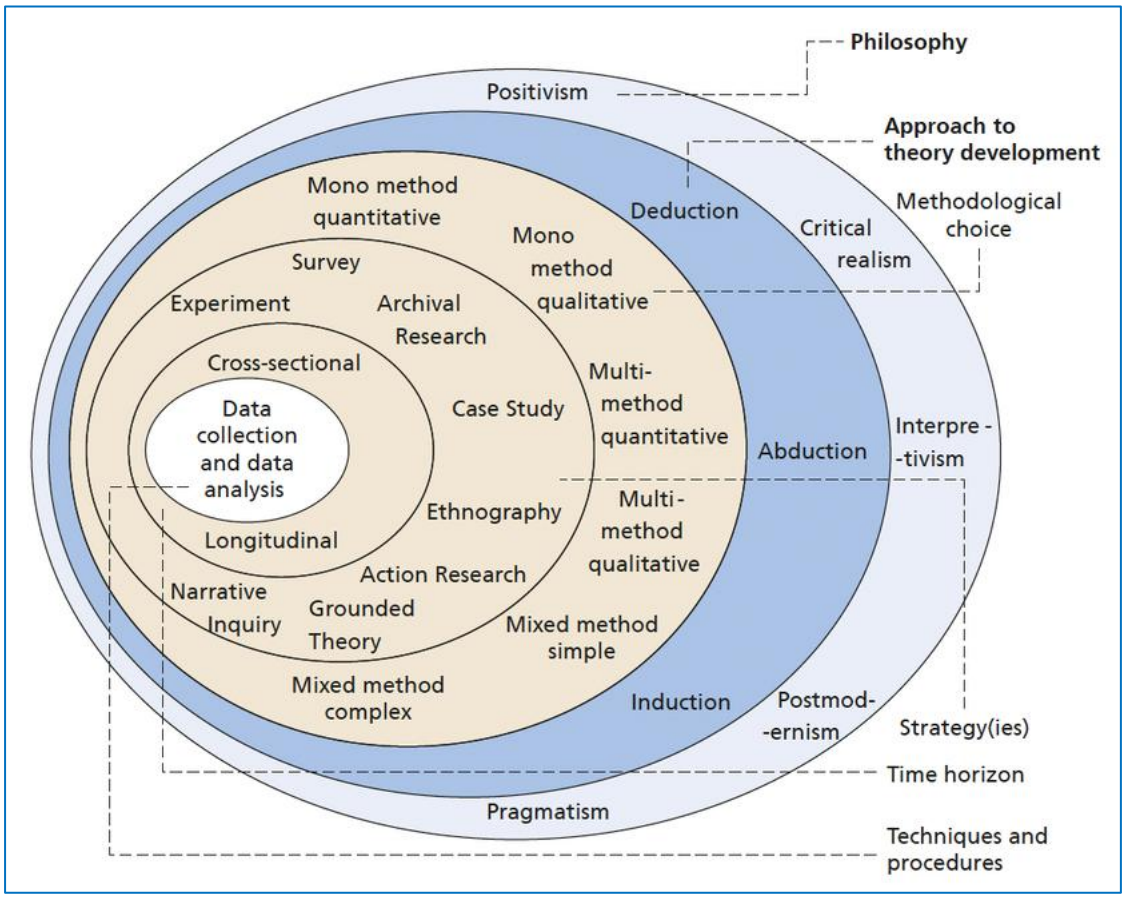


Figure 3.1 Research Onion (Saunders, et al., 2019)

3.2 RESEARCH PARADIGM

3.2.1 Overview

Understanding the philosophical foundation of a research study is essential for ensuring methodological coherence. A research paradigm serves as a guiding framework that shapes how knowledge is acquired, interpreted, and validated. According to Guba and Lincoln (1994), a research paradigm consists of three core elements: ontology (the nature of reality), epistemology (the nature of knowledge and how it is acquired), and methodology (the strategies used to investigate a phenomenon). Creswell and Creswell (2018) further explain that research paradigms influence the researcher's choice of data collection methods, analytical techniques, and interpretation of findings. Research paradigms help establish coherence in a study by ensuring that the philosophical assumptions align with the research objectives and methodological choices (Cohen, Manion, & Morrison, 2018).

This section explores the different research paradigms—positivism, interpretivism, and pragmatism—and provides a justification for adopting an interpretivist approach for this study. The paradigm selection aligns with the study's objective of capturing stakeholder perceptions and experiences within Schools of Specialisation, emphasizing the role of context, subjectivity, and social interactions in shaping educational outcomes.

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3.2.2 Positivism

Positivism is a paradigm that relies on objective reality, empirical observations, and quantitative data collection (Creswell & Creswell, 2018). It assumes that knowledge is measurable, generalizable, and independent of human perceptions. While positivist approaches are widely used in educational research, particularly in studies measuring student outcomes and school effectiveness through statistical methods, they are not

suited for this study's focus on stakeholder perceptions and experiences. The rigid nature of positivism makes it less appropriate for capturing the subjective, context-dependent insights needed to evaluate the impact of SoS from multiple perspectives (Cohen, Manion, & Morrison, 2018).

3.2.3 Interpretivism

Interpretivism emphasizes the subjective nature of reality, recognizing that human experiences are shaped by social, cultural, and institutional contexts (Denzin & Lincoln, 2018). This paradigm is particularly useful for exploring individual perceptions and social interactions, making it highly relevant to qualitative research. In the context of this study, interpretivism allows for a deeper understanding of how students, teachers, parents, and community members experience and interpret the role of Schools of Specialisation. By employing interpretivist principles, this research captures nuanced perspectives, recognizing that educational experiences are dynamic and cannot be fully understood through numerical data alone (Cohen et al., 2018).

3.2.4 Pragmatism

Pragmatism bridges the gap between positivism and interpretivism by adopting a flexible approach that integrates both qualitative and quantitative research methods (Tashakkori & Teddlie, 2010). Pragmatists argue that research should focus on problem-solving and real-world applicability, regardless of the method used. While pragmatism is useful for studies requiring mixed-method approaches, this study's emphasis on stakeholder perceptions and lived experiences aligns more closely with an interpretivist approach. Since the goal is to explore how various stakeholders perceive the effectiveness of SoS rather than quantify their impact statistically, pragmatism was not selected as the guiding paradigm (Creswell, 2014).

3.2.5 Justification for Chosen Paradigm

The interpretivist paradigm is the most suitable approach for this study because it enables an in-depth, holistic exploration of stakeholders' perceptions of Schools of Specialisation. Unlike positivist approaches that rely on numerical data and generalizable findings, interpretivism acknowledges the complexity and subjectivity inherent in educational experiences (Bryman, 2016). Schools of Specialisation operate within diverse socio-economic and policy contexts, and understanding their impact

requires a research approach that prioritizes stakeholder narratives, institutional culture, and policy interpretation (Denzin & Lincoln, 2018).

Moreover, interpretivism allows for data collection methods that capture rich, descriptive insights, such as semi-structured interviews, focus group discussions, and document analysis. These methods facilitate a deeper engagement with participants, providing an authentic representation of their views, challenges, and expectations regarding SoS (Cohen et al., 2018). This approach aligns with the study's goal of contributing to qualitative educational research by shedding light on the lived realities of stakeholders.

Additionally, the interpretivist paradigm ensures that this study addresses critical gaps in existing research by emphasizing the contextual factors influencing specialized education in South Africa. By focusing on real-world experiences, this research extends beyond policy-level discussions to examine how students, educators, and parents engage with SoS in practice. This contribution is essential for informing educational policy, curriculum development, and institutional strategies for strengthening the Schools of Specialisation model (Creswell & Creswell, 2018).

3.3 Research Approach

3.3.1 Overview

A research approach refers to the systematic way in which a study is conducted, influencing how data is collected, analyzed, and interpreted. Saunders et al. (2019) categorize research approaches into three main types: *deductive, inductive, and abductive reasoning.* These approaches define how researchers engage with existing theories and empirical data in their investigations. Selecting an appropriate research approach ensures alignment with the study's objectives and methodological framework, thus enhancing the credibility and relevance of findings.

3.3.2 Deductive Reasoning Approach

The deductive reasoning approach follows a top-down logical process, where research begins with a theoretical foundation, develops hypotheses, and then tests these hypotheses through empirical observations (Saunders et al., 2019). Deductive reasoning is commonly associated with quantitative research**,** as it aims to validate or refute pre-existing theories using structured methodologies such as surveys and

experiments. This approach is prevalent in disciplines where generalizability and objective measurement are priorities. However, deductive reasoning is not suitable for this study, as the focus is on exploring stakeholder perceptions and experiences within Schools of Specialisation, which requires a more flexible and context-sensitive approach.

3.3.3 Inductive Reasoning Approach

The inductive reasoning approach follows a bottom-up process, where research begins with data collection, from which patterns and themes emerge, leading to the development of theories or conceptual models (Saunders et al., 2019). This approach is commonly used in qualitative research, as it allows for a deep exploration of lived experiences, social interactions, and complex phenomena. Inductive reasoning does not rely on pre-existing theories but instead builds understanding based on empirical observations. In this study, inductive reasoning is particularly relevant as it enables the exploration of diverse stakeholder perspectives on Schools of Specialisation, capturing the complexity of their experiences without being confined to predetermined theoretical assumptions.

3.3.4 Abductive Reasoning Approach

The abductive reasoning approach combines elements of both deductive and inductive reasoning, allowing researchers to move between theory and data to develop plausible explanations for observed phenomena (Saunders et al., 2019). This approach is particularly useful when studying complex issues with incomplete or evolving theoretical foundations. While abductive reasoning offers flexibility, it is typically employed in mixed-methods research, where both qualitative and quantitative data are analyzed iteratively. Given that this study is primarily qualitative and focuses on understanding subjective experiences rather than testing or refining existing theories, abductive reasoning was not selected as the primary approach.

3.3.5 Justification for Chosen Approach

This study adopts an inductive reasoning approach, as it aligns with the interpretivist paradigm and qualitative methodology used to explore stakeholder perceptions of Schools of Specialisation. Unlike deductive reasoning, which requires predefined

hypotheses, or abductive reasoning, which involves iterative theory-building, inductive reasoning allows for emergent insights based on real-world observations and participant narratives (Saunders et al., 2019).

By utilizing an inductive approach, the study is able to generate rich, context-specific understandings that reflect the lived experiences of students, teachers, parents, and community members. This is particularly important in the South African education system, where policy implementation and stakeholder engagement vary significantly. Inductive reasoning also ensures that the findings are grounded in empirical data rather than pre-existing theoretical models, allowing for the identification of new themes, patterns, and relationships that may not have been previously explored in the literature.

Furthermore, this approach supports flexibility in data collection and analysis, enabling the researcher to adapt to emerging insights during the study. Since the study seeks to understand how Schools of Specialisation are perceived and experienced rather than proving or disproving an established theory, inductive reasoning is the most suitable approach. Ultimately, this choice allows the research to make meaningful contributions to both academic discourse and policy development**,** offering contextualized insights that can inform future improvements in specialized education in South Africa.

3.4 Research Method

3.4.1 Overview of Traditional Research Methods

Research methods refer to the systematic techniques used to collect and analyze data. According to Saunders et al. (2019), research methods can be broadly classified into three categories: **quantitative, qualitative, and mixed methods**. Each method has distinct epistemological and methodological implications, influencing how researchers approach their studies.

- **Quantitative Research Method**: This method emphasizes numerical data, statistical analysis, and hypothesis testing. It is rooted in ***positivist epistemology***, which assumes an objective reality that can be measured through structured instruments such as surveys, experiments, and standardized tests (Creswell & Creswell, 2018). Quantitative research is effective for examining causal relationships and generalizable patterns, making it suitable for large-scale studies. However, it

lacks the flexibility needed to capture deep, context-specific insights into stakeholder perceptions.

- **Qualitative Research Method**: Qualitative research focuses on exploring social phenomena through open-ended, descriptive, and interpretive techniques. It aligns with ***interpretivist epistemology***, emphasizing subjective experiences, meanings, and context-dependent insights (Denzin & Lincoln, 2018). Common qualitative data collection methods include interviews, focus groups, and document analysis. Unlike quantitative research, qualitative methods prioritize depth over breadth, making them ideal for investigating complex educational settings such as Schools of Specialisation.
- **Mixed Methods Research**: This approach combines both qualitative and quantitative techniques to provide a more comprehensive understanding of a research problem. Mixed methods research follows a ***pragmatic epistemology***, allowing researchers to integrate numerical analysis with interpretive insights (Tashakkori & Teddlie, 2010). While mixed methods can be highly effective, they require extensive time, resources, and expertise in both qualitative and quantitative methodologies.

3.4.2 Justification for Qualitative Approach

This study adopts a qualitative research method, as it aligns with the interpretivist paradigm and inductive reasoning approach used to explore stakeholder perceptions of Schools of Specialisation. Qualitative research provides the depth and flexibility necessary to examine the lived experiences of students, teachers, parents, and community members, which cannot be fully captured through numerical analysis alone (Creswell & Poth, 2018).

Qualitative methods ensured that participant narratives are explored in detail, allowing for the emergence of new themes and insights. This approach is particularly valuable in understanding how educational policies and institutional practices shape stakeholder experiences in Schools of Specialisation. Furthermore, qualitative research enables the researcher to analyze non-verbal cues, contextual factors, and social interactions**,** which are often overlooked in quantitative studies (Cohen et al., 2018).

Additionally, given the limited prior research on Schools of Specialisation in South Africa**,** a qualitative approach allows for an exploratory investigation rather than a hypothesis-driven study. Since the goal is to generate rich, context-sensitive findings that inform educational policy and practice, qualitative research is the most appropriate methodological choice. Ultimately, this approach contributes to a deeper, more nuanced understanding of the impact of Schools of Specialisation on various stakeholders, ensuring that findings remain relevant to both academic discourse and real-world educational challenges.

3.5 Research Design/Strategy

3.5.1 Overview

The selection of an appropriate research design is crucial in qualitative studies, as it determines how data is collected, analyzed, and interpreted. According to Costa (2020), qualitative research involves a spectrum of complex methods that enable researchers to deeply explore social phenomena. These methods, including case study research, phenomenology, grounded theory, ethnography, narrative inquiry, netnography, autoethnography, ethnomethodology, qualitative evidence synthesis, and content analysis**,** each offer unique perspectives and analytical tools. The study of Schools of Specialisation requires a design that facilitates an in-depth understanding of stakeholders' experiences within their natural settings. This chapter examines these qualitative approaches, situating them within the broader discourse of educational research methodologies. The ultimate selection of **case study research** is justified through its ability to capture institutional dynamics, stakeholder interactions, and policy implementations in a real-world context.

3.5.2 Case Study Research

Case study research is a qualitative approach that provides an in-depth understanding of a phenomenon within its real-world context (Yin, 2018). This method is particularly useful for exploring contemporary issues where the boundaries between context and phenomenon are blurred. Stake (1995) emphasizes that case study research allows for a rich, holistic exploration of participants' experiences, making it ideal for studies that seek to investigate educational models such as Schools of Specialisation. By focusing

on a specific setting within the Gauteng Province, this study benefits from the depth and contextual relevance that case study research offers.

3.5.3 Phenomenology Research

Phenomenological research explores individuals' lived experiences to understand how they make sense of their world (Moustakas, 1994). This approach is often used in education to capture personal insights into learning processes, teaching methods, and institutional dynamics. While phenomenology offers a deep understanding of subjective experiences, it is not the primary approach for this study, as the focus extends beyond individual consciousness to include policy implementation and institutional dynamics.

3.5.4 Grounded Theory

Grounded theory aims to develop new theories based on systematically gathered and analyzed data (Glaser & Strauss, 1967). This approach is valuable for exploratory research that seeks to generate theories rather than test existing ones. However, given that this study aims to analyze an existing educational model rather than develop a new theory, grounded theory was not selected as the primary research design.

3.5.5 Ethnography Research

Ethnographic research focuses on understanding cultural and social interactions within specific communities (Creswell & Poth, 2018). It involves prolonged engagement with participants, often requiring immersive fieldwork. While ethnography is beneficial in studies analyzing group behaviors, this study does not require extensive participant observation over an extended period, making ethnography less suitable.

3.5.6 Narrative Inquiry Research

Narrative inquiry research focuses on individuals' stories to understand their experiences over time (Clandinin & Connelly, 2000). This method is particularly effective in capturing personal educational journeys. While narrative inquiry can provide valuable personal accounts, this study requires a broader institutional analysis rather than individual life stories, making it a secondary rather than primary research strategy.

3.5.7 Netnography Research

Netnography is a qualitative research method used to study online communities and interactions (Kozinets, 2015). Given that this study focuses on in-person experiences and institutional structures in Schools of Specialisation, netnography is not an appropriate approach.

3.5.8 Autoethnography Research

Autoethnography is a form of self-reflective research where the researcher uses their personal experiences to explore cultural phenomena (Ellis, Adams, & Bochner, 2011). This approach is relevant in studies where the researcher's own experiences contribute to the analysis. However, since this study focuses on multiple stakeholders rather than the researcher's personal experiences, autoethnography was not chosen.

3.5.9 Ethnomethodology Research

Ethnomethodology examines the methods people use to make sense of their everyday social interactions (Garfinkel, 1967). While it provides insights into routine social behaviors, this approach is less suited for studying structured educational programs like Schools of Specialisation.

3.5.10 Qualitative Evidence Synthesis

Qualitative evidence synthesis involves aggregating findings from multiple qualitative studies to generate comprehensive insights (Thomas & Harden, 2008). Since this study focuses on primary data collection rather than synthesizing existing research, qualitative evidence synthesis is not the primary approach.

3.5.11 Content Analysis

Content analysis is a systematic method for analyzing textual, visual, or verbal data (Krippendorff, 2018). While content analysis can complement qualitative research, it is not the central methodology for this study, as the primary focus is on stakeholder interviews and case study analysis.

3.5.12 Justification for Chosen Design (Case Study Using Yin and Stake)

This study adopts a case study research design**,** as it allows for an in-depth exploration of Schools of Specialisation in their real-world context (Yin, 2018). A case study is particularly suited for examining complex educational phenomena, as it enables the researcher to investigate multiple factors influencing stakeholder perceptions, policy implementation, and institutional effectiveness (Stake, 1995). Unlike phenomenology or narrative inquiry, which focus on individual experiences, a case study provides a broader institutional and systemic perspective.

Yin (2018) highlights that case studies are ideal for research that seeks to answer "how" and "why" questions, making them suitable for exploring stakeholder experiences and the operational effectiveness of Schools of Specialisation. Stake (1995) further emphasizes the importance of case study research in education, as it captures the complexity of school environments, governance structures, and pedagogical practices. By focusing on a specific case within the Gauteng Province, this study ensures depth and contextual richness while addressing the research objectives effectively.

In summary, the case study design provides a **stru**ctured yet flexible approach that accommodates the complexities of specialized education. It allows for the integration of multiple stakeholder perspectives, aligning with the study's interpretivist paradigm and qualitative methodology. This design ensures that the research findings remain relevant to both policy discussions and educational practice, offering valuable insights into the effectiveness of Schools of Specialisation in South Africa.

3.6 POPULATION AND SAMPLING

3.6.1 Population

3.6 Population and Sampling

3.6.1 Population

In research, the term **population** refers to the total group of individuals or entities relevant to the study (Creswell & Creswell, 2018). This study focuses on stakeholders within Schools of Specialisation in Gauteng Province, including students, teachers, parents, and community members, who were represented by businesses benefiting from skills per SoS**.** These stakeholders represent individuals with direct or indirect

experiences of the specialized education model, making them suitable for providing rich qualitative insights.

The Gauteng Province was selected as the research setting because it serves as the epicentre of educational reforms in South Africa and has implemented multiple Schools of Specialisation to enhance vocational and technical education. The target population includes schools across different specialisation fields, such as engineering, commerce, ICT, performing arts, and sports**.** By considering a diverse range of Schools of Specialisation, the study captures the varied experiences and perspectives of stakeholders within the province.

3.6.2 Sampling

Sampling refers to the process of selecting a subset of the population to represent the broader group (Saunders et al., 2019). Given the qualitative nature of this study, purposive and snowballing sampling were employed to identify participants who possess relevant knowledge and experience with Schools of Specialisation (Cohen, Manion, & Morrison, 2018).

The sample was drawn from **various Schools of Specialisation in Gauteng Province**. These variations include the engineering school in East Rand, creatives school in Johannesburg, ICT school in Johannesburg, commercial school in Soweto and sports school in Pretoria. This ensured diversity across different fields of specialisation. The following section provides a brief description of each school that was sampled.

3.6.2.1 SOS-ENG (Engineering Focus)

Located in a large township within the eastern metropolitan area of Gauteng, this school of specialisation is dedicated to engineering pathways. The school operates a mix of civil, electrical, and mechanical workshops, providing learners with exposure to practical skills that complement theoretical studies. Most learners are drawn from surrounding working-class communities, where unemployment and limited access to higher education opportunities are common. The school has invested in robotics and computer-aided design clubs, offering enrichment activities to broaden learners' career

prospects. Partnerships with a nearby university of technology and a regional skills hub support curriculum delivery and ensure learners are exposed to industry expectations. Despite these strengths, the school faces recurring challenges such as maintaining ageing workshop infrastructure and providing reliable transport for learners who commute from outlying areas.

3.6.2.2 SOS-ARTS (Performing and Creative Arts Focus)

This school is situated in a southern metropolitan corridor that connects inner-city and suburban communities. It specialises in the performing and creative arts, with pathways including music, dance, drama, and visual art. The learner body is highly diverse, drawn from both township and urban areas, resulting in a mix of socioeconomic backgrounds. Facilities include a multipurpose theatre space, studios, and rehearsal rooms, which are used for both academic assessments and public performances. Learners frequently participate in regional arts festivals, and the school has built strong ties with local arts organisations and cultural centres. While the school enjoys visibility and prestige for its artistic output, it grapples with limited funding for maintaining instruments, costumes, and technical equipment, making it reliant on donations and partnerships. Educators also balance the dual demands of artistic mentoring and academic accountability.

3.6.2.3 SOS-COMM (Commerce and Entrepreneurship Focus)

Positioned in a central business-oriented district of Gauteng, this school is geared towards commerce, entrepreneurship, and business studies. The curriculum emphasises entrepreneurship, economics, and accounting, with learners encouraged to run simulated enterprises as part of their training. Many students come from entrepreneurial families or communities where informal businesses form the backbone of local economies. The school provides learners with opportunities to showcase their business ideas at expos and district competitions, supported by collaboration with regional business incubators. Facilities include a computer lab dedicated to financial literacy software and entrepreneurship simulations. Although the school is well-placed to prepare learners for both tertiary education and self-employment, it faces obstacles such as limited access to up-to-date digital tools and uneven exposure to mentorship. Teachers report that sustaining motivation among learners from disadvantaged backgrounds is an ongoing task.

3.6.2.4 SOS-SPORT (Sports Focus)

Situated within a northern township precinct, this school specialises in sporting excellence while maintaining a strong academic core. Learners enrol in pathways such as athletics, football, netball, and other competitive sports, with training programmes integrated into the daily timetable. The school benefits from an on-site sports science centre, a gymnasium, and access to provincial-level coaching expertise. Many learners are recruited from surrounding communities on the basis of their sporting talent, and some have progressed to provincial or national junior teams. The ethos of the school strongly emphasises discipline, teamwork, and balancing sport with academic achievement. However, challenges include the high costs of sports equipment and travel for competitions, as well as the risk of learners prioritising athletic aspirations at the expense of academic engagement. Partnerships with local sports federations help to mitigate some of these pressures, but sustainability remains a concern.

3.6.2.5 SOS-MSICT (Mathematics, Science, and ICT Focus)

Located in an inner-city educational corridor of Gauteng, this school is focused on mathematics, science, and information technology. It attracts academically ambitious learners from across the province, creating a highly competitive learning environment. The school is equipped with modern laboratories, ICT suites, and innovation hubs, making it one of the better-resourced specialisation schools in the system. Many learners come from families who value education as a vehicle for upward mobility, though the school also serves students from disadvantaged urban areas. Partnerships with a nearby university and regional tech firms provide opportunities for mentorship, coding workshops, and career guidance. Despite these strengths, the school experiences pressure to maintain consistently high academic results, and teachers note the challenge of bridging the gap between learners with strong primary education backgrounds and those who require additional academic support. Nonetheless, the culture of high expectations has fostered a sense of resilience and aspiration among learners.

The key participants included:

- ***Students:*** Representing learners currently enrolled in Schools of Specialisation.
- ***Teachers:*** Educators responsible for delivering specialized curricula.
- ***Parents:*** Guardians of students attending these schools, providing insights into their children's educational experiences.
- ***Community Member*****s:** Local industry representatives and business partners engaged in the specialized education model.

To ensure the study provided a holistic view of perceived impact of SoSes on the broader targeted community, the researcher focused on sampling a diverse range of stakeholders (Guest, Namey, & Mitchell, 2016). This approach strengthened the trustworthiness of findings, as presented in the next chapter. Furthermore, this population and sampling strategy aligns with the study's interpretivist paradigm and qualitative methodology, allowing for a rich exploration of perceptions and lived experiences in Schools of Specialisation.

3.7 Data Collection

3.7.1 Overview

In conducting case studies, researchers have at their disposal various data collection methods, including interviews, focus groups, examination of artefacts, and evaluation of documents (Creswell, 2013). Each data collection method (Barrett & Twycross, 2018) offers unique insights into the perceptions, experiences, and dynamics surrounding Schools of Specialisation (SOS). In alignment with the study's objectives, this research used conversational questioning techniques to gather detailed insights from participants purposefully selected for their relevance to the study (Rashid, Rashid, Warraich, Sabir, & Waseem, 2019).

3.7.2 Semi-Structured Interviews

Semi-structured interviews were used with individual participants to delve into their personal experiences, perspectives, and insights related to specialized education (Jamshed, 2014). For example, while students and teachers were asked about "gains" from the SoS concept, parents were asked about the factors influencing their decision

to enrol their children in SOS, while industry players were asked about the value SOS add to workforce development in Gauteng Province (Khobe & Makuna, 2023).

The research instrument used for collecting data was linked to key literature sources that inform the research objectives. Linking the research instrument, such as an interview guide, to existing literature is essential for several reasons (Freestone & Wood, 2015; Hasan & Hasan, 2019).

Firstly, literature provides a foundation of knowledge and understanding within a particular field or topic area. For example, understanding the existing perceptions, strengths, weaknesses, and alignment with objectives of Schools of Specialisation as documented in literature can guide the development of interview questions that build upon and contribute to this knowledge base.

Secondly, aligning the research instrument with literature enhances the validity and credibility of the study. By grounding the interview guide in existing research, researchers demonstrate that their study is informed by established theories, concepts, and methodologies. This strengthens the overall research design and increases the trustworthiness of the findings. When interview questions are linked to literature, it also provides a basis for triangulation, allowing researchers to corroborate their findings with existing knowledge and identify areas of convergence or divergence.

Moreover, linking the research instrument to literature enables researchers to identify gaps, contradictions, or areas for further exploration.

Finally, by grounding interview questions in existing literature, researchers ensure that their study is informed, rigorous, and contributes meaningfully to the body of knowledge in their field. This research instrument is attached as Annexure in this report.

3.7.3 Avoiding Bias in Data Collection

In qualitative research, researcher bias can influence data collection and interpretation, particularly when the researcher has direct involvement with the study population (Maxwell, 2013). To mitigate the risk of bias, this study adopted external data collection mechanisms to ensure neutrality and credibility in findings (Creswell & Poth, 2018). Given that the researcher holds an official role in overseeing Schools of Specialisation in Gauteng Province, it was imperative to prevent the "deep-stick" effect—a situation

where the researcher's prior knowledge and position influence participants' responses (Yin, 2018).

To eliminate researcher influence**, an** independent research center**,** known as Costa Research Institute, was commissioned to conduct data collection. The institute assigned two external researchers who were responsible for engaging with participants, conducting interviews, and ensuring objective data collection processes. This approach aligns with best practices in qualitative research ethics, where external facilitators are used to minimize positionality bias and enhance the credibility of qualitative findings (Cohen, Manion, & Morrison, 2018).

The involvement of Costa Research Institute ensured that participants could freely express their perspectives without the perceived power dynamics of interacting directly with an official overseeing their schools. This external facilitation added rigor to the data collection process, reinforcing the study's commitment to trustworthiness and authenticity in qualitative research (Lincoln & Guba, 1985). Furthermore, member checking and peer debriefing were utilized to validate collected data and confirm that interpretations remained consistent with participants' intended meanings (Birt et al., 2016).

Implementing these strategies in this study effectively reduced the risk of confirmation bias, ensuring that data collection was systematic, independent, and aligned with ethical qualitative research practices. The use of external data collectors and structured validation techniques strengthens the reliability and integrity of the research findings, making them more credible and generalizable within the specialized education context in Gauteng Province.

3.7.4 Document Analyses

Document analysis is a qualitative research method used to examine existing written materials to gain insights into policies, institutional frameworks, and historical records (Bowen, 2009). In this study, document analysis was employed to assess key Gauteng Department of Education (GDE) policies related to the implementation and governance of Schools of Specialisation (SoS). These documents included policy frameworks,

implementation reports, curriculum guidelines, and government publications outlining the objectives and expected outcomes of SoS in the province.

The analysis of these documents provided a contextual understanding of how SoS are structured, funded, and integrated into the broader educational system. Reviewing policy documents also allowed for the identification of gaps between policy intentions and actual implementation, offering valuable insights into the challenges and limitations faced by stakeholders (Creswell & Poth, 2018). Additionally, legislative frameworks governing vocational education and specialized learning were examined to understand their alignment with industry needs and workforce development initiatives.

3.7.5 Observational Insights from Participant Engagement

Observation is a key qualitative data collection technique that allows researchers to gather insights beyond verbal responses by analyzing participants' non-verbal cues, interactions, and behaviors in their natural settings (Angrosino, 2007). In this study, participant observation was conducted during interviews and focus group discussions, providing firsthand insights into how students, teachers, and administrators engage within Schools of Specialisation.

During the data collection process, observations were made regarding:

- Student engagement and enthusiasm in discussing their learning experiences, particularly their level of confidence in specialized education and career aspirations.
- Teachers' instructional methods and responsiveness to the challenges of delivering specialized curricula.
- Parental engagement in discussions about their children's experiences and future prospects.
- Industry representatives' perspectives on the practical readiness of students for workforce integration.

These observations supplemented the verbal data obtained through interviews, allowing for a more comprehensive interpretation of stakeholder perceptions (Patton, 2015). Notably, the interactions among students and teachers revealed differences in access

to resources, motivation levels, and institutional support**,** highlighting key themes for further analysis.

3.7.6 Analysis of Artifacts and Infrastructure

Artifacts refer to physical objects, materials, and facilities that provide tangible evidence of educational practices and institutional priorities (Hodder, 2000). This study incorporated an artifact analysis approach to examine the facilities, equipment, and specialized learning environments within various Schools of Specialisation in Gauteng Province. This included:

- **Engineering and Technical Training Equipment**: Workshops equipped with industry-grade machinery, tools, and simulation environments designed to facilitate hands-on technical learning.
- **Gardening and Agricultural Training Centers**: Specialized SoS focused on agribusiness provided practical learning spaces such as greenhouses, hydroponic systems, and organic farming areas.
- **Commerce and Trade Centers**: Schools specializing in business and entrepreneurship featured simulated trading environments, including student-run retail spaces and financial literacy training stations.
- **Performing Arts and ICT Labs**: Schools with a focus on creative industries were observed for their digital technology integration, musical instruments, and performance spaces, reflecting the practical application of arts education.

3.8 Data Analysis

3.8.1 Overview of Data Analysis in Qualitative Research

Data analysis in qualitative research involves systematically examining, organizing, and interpreting textual, visual, or audio data to generate meaningful insights (Creswell & Poth, 2018). Unlike quantitative research, which relies on statistical methods, qualitative data analysis focuses on understanding patterns, themes, and contextual meanings within collected data (Miles, Huberman, & Saldaña, 2014). This process enables researchers to derive rich, in-depth interpretations that reflect participants' lived experiences and perspectives.

For this study, a combination of Krippendorff's Content Analysis and Braun and Clarke's Thematic Analysis was utilized to process and interpret stakeholder perceptions of Schools of Specialisation. Additionally, Saldaña's data coding techniques were employed to enhance the organization of qualitative data. The COSTAQDA software (Costa & Costa,2024) was used to manage, code, and visualize data effectively, ensuring a structured and rigorous analytical process.

3.8.2 Krippendorff's Content Analysis

Krippendorff's Content Analysis is a systematic technique for analyzing textual data by identifying recurring words, phrases, and patterns to quantify qualitative information (Krippendorff, 2018). In this study, frequencies of codes were generated to understand commonalities across stakeholder narratives. This method facilitated the identification of dominant themes and provided an empirical basis for interpreting participant responses.

3.8.3 Braun and Clarke's Thematic Analysis

Braun and Clarke's Thematic Analysis is widely used in qualitative research to identify, analyze, and report patterns (themes) within data (Braun & Clarke, 2006). This method involves a six-phase approach: data familiarization, initial coding, theme identification, theme review, theme definition, and final reporting. Thematic Analysis was employed to develop themes from coded data, providing a comprehensive understanding of stakeholder perceptions and experiences in Schools of Specialisation.

3.8. 4 Saldaña's Data Coding Techniques

Saldaña's data coding techniques were applied to systematically categorize and organize qualitative data (Saldaña, 2016). This study also drew on Saldaña's coding strategie**s**, including descriptive coding, in vivo coding, and pattern coding, as outlined in Saldaña and Omasta (2017). These methods ensured structured categorization of participant responses, enabling the development of patterns and thematic insights within the data.

3.8.5 COSTAQDA Software for Data Analysis and Visualization

The COSTAQDA (Coding, Ordering, Searching, and Testing for Qualitative Data Analysis) software was used to manage, code, and visualize the data collected in this study. COSTAQDA is a computer-assisted qualitative data analysis software (CAQDAS) designed to facilitate systematic coding and organization of qualitative datasets. The software streamlines the analytical process by allowing researchers to efficiently code large amounts of textual data, identify thematic patterns, and generate visual representations such as word clouds, coding matrices, and citation networks (Costa & Mfolo, 2024).

Using COSTAQDA ensured greater accuracy and efficiency in data organization, enabling structured presentation and interpretation of stakeholder narratives. The software's automated visualization tools allowed for the creation of impactful data displays, which were instrumental in identifying thematic relationships and enhancing the reliability of the analysis (Costa & Costa,2024).

The integration of Krippendorff's Content Analysis, Braun and Clarke's Thematic Analysis, Saldaña's Coding Methods, and COSTAQDA software provided a robust, multi-faceted approach to qualitative data analysis. This methodological rigor ensured that the study captured rich, meaningful insights into stakeholder perceptions of Schools of Specialisation in Gauteng Province, contributing to a deeper understanding of the specialized education model.

3.9 ETHICAL CONSIDERATIONS

3.9.1 Overview

Ethical considerations are a fundamental aspect of qualitative research, ensuring that the rights, dignity, and well-being of participants are protected throughout the study. Given that this research involves human participants, adherence to ethical principles was critical in designing and executing data collection processes. Ethical guidelines were followed to guarantee that participants engaged voluntarily, that their information remained confidential, and that no harm resulted from their involvement in the study. The study's ethical considerations were informed by the Belmont Report principles, which outline three core ethical guidelines for research involving human subjects:

respect for persons, beneficence, and justice (National Commission for the Protection of Human Subjects, 1979). Furthermore, all institutional ethical procedures outlined by the University of the Witwatersrand were strictly adhered to, ensuring compliance with national and institutional research ethics standards.

3.9.2 Adherence to the Belmont Principles

The principle of respect for persons was upheld by ensuring that all participants provided informed consent before participating in the study. The researcher provided detailed explanations regarding the study's purpose, objectives, data collection procedures, and potential risks and benefits. Participants had the freedom to ask questions and seek clarifications before agreeing to participate, and they retained the right to withdraw from the study at any stage without any repercussions. This ensured that participation was entirely voluntary and that individuals were not coerced into providing responses.

The principle of beneficence was applied by minimizing any potential risks and ensuring that participation in the study would not result in harm to individuals. Measures were implemented to safeguard participants' emotional and psychological well-being, particularly during interviews and focus groups where sensitive topics related to education and career prospects were discussed. Confidentiality and anonymity were maintained by de-identifying participant responses and ensuring that no personally identifiable information was recorded or published. All interviews were conducted in a neutral, safe, and non-threatening environment, ensuring that participants felt comfortable expressing their genuine perceptions and experiences.

The principle of justice was upheld by ensuring equitable participant selection in the study. The sampling process was designed to ensure fair representation of different stakeholders, including students, teachers, school administrators, parents, and community members. No group was unfairly excluded or disproportionately burdened by participation. Additionally, Schools of Specialisation from various specialisation fields were included to ensure a diverse and representative sample, thereby preventing any form of bias in participant selection.

3.19.3 Ethical Approval and Institutional Guidelines

To ensure compliance with research ethics, this study obtained formal ethical clearance from the University of the Witwatersrand's Human Research Ethics Committee (HREC) before the commencement of data collection. This ethical approval process involved submitting a detailed research proposal outlining the study's objectives, methodology, participant recruitment process, and data protection measures. Approval was granted following a rigorous review process, confirming that the study met the required ethical standards.

To uphold confidentiality and anonymity, all data collected were stored securely, with access restricted to the research team. Participants' responses were anonymized, and no identifiable personal details were linked to the findings to protect privacy. Furthermore, the study complied with South Africa's Protection of Personal Information Act (POPIA), ensuring that all data management and storage protocols adhered to national privacy regulations.

A key ethical challenge in this study was mitigating researcher bias, particularly given that the researcher holds an official role in overseeing Schools of Specialisation in Gauteng Province. To prevent any undue influence, an independent research center, Costa Research Institute, was engaged to conduct data collection. Two external researchers from the institute facilitated interviews and focus group discussions, ensuring that participants could express their views freely without fear of repercussions. This strategy minimized the risk of positionality bias, reinforcing the objectivity and credibility of the findings.

Additionally, participant debriefing and member checking were employed as validation techniques. After data collection, participants were given the opportunity to review and verify their responses to ensure that their views were accurately represented. This step further enhanced the trustworthiness and authenticity of the research findings.

3.10 CONCLUSION

This chapter has outlined the research methodology adopted for investigating the perceived impact of Schools of Specialisation (SoS) in Gauteng Province. The study is anchored in an interpretivist paradigm, which emphasizes the importance of

understanding stakeholder experiences, social contexts, and institutional dynamics. By employing a qualitative case study approach, the research enables an in-depth exploration of the lived experiences of students, educators, parents, and industry partners.

The chapter detailed the research design, highlighting the rationale for selecting qualitative methods, including semi-structured interviews, focus groups, and document analysis. These methods were chosen to ensure rich, descriptive insights that capture the complexities of stakeholder perceptions. The use of thematic analysis, supported by Cohen's Kappa inter-coder reliability measure, further strengthens the credibility and rigor of the study by ensuring consistency in coding and interpretation.

Ethical considerations were also carefully addressed, with measures implemented to protect participant confidentiality, ensure voluntary participation, and minimize researcher bias. The study adhered to ethical guidelines established by the University of the Witwatersrand, reinforcing the integrity of the research process.

Despite the methodological strengths, the study acknowledges limitations, including the potential for subjective interpretation and the challenges associated with generalizing findings beyond the studied cases. However, the emphasis on trustworthiness—through credibility, transferability, dependability, and confirmability—mitigates these concerns and enhances the reliability of the study's findings.

The methodological framework employed in this study provides a solid foundation for analyzing the effectiveness of Schools of Specialisation. The next chapter presents the findings and analysis, drawing on the collected data to offer insights into stakeholder perceptions, the strengths and weaknesses of SoS, and their alignment with intended educational and economic objectives.

CHAPTER FOUR- PRESENTATION OF FINDINGS

4.1 INTRODUCTION

This chapter presents the findings of the study on stakeholder perceptions of the Schools of Specialisation (SoS), focusing on their impact, strengths, weaknesses, alignment with objectives, and educator capacitation. The analysis is based on data collected from students, teachers, parents, and business community members, offering a holistic perspective on the effectiveness and challenges of the SoS model.

The analytic approach applied in this study involved a combination of content analysis (CA) and thematic analysis (TA) using COSTAQDA software. Content analysis was used to identify code frequencies, helping to understand shared meanings across stakeholder groups, while thematic analysis enabled the distillation of core themes that best encapsulated stakeholder experiences. The final themes were tested using Cohen's Kappa inter-coder reliability, which resulted in a high agreement score of 0.80, ensuring the validity and consistency of the themes.

The chapter proceeds by detailing the findings within each category, integrating in-vivo statements to illustrate stakeholder experiences and perspectives. The results provide a comprehensive account of the Schools of Specialization's impact, challenges, and opportunities for growth, setting the foundation for the discussion and recommendations in the subsequent chapter.

4.2 CHARACTERISTICS OF PARTICIPANTS

Participants in this study were drawn from five Schools of Specialisation (SoS), representing learners, teachers, parents, business community members, principals, and a district official. In total, 22 individuals participated across the five case sites.

All learners involved were above the age of 18, with ages ranging between 18 and 19 years, which meant they were able to provide their own informed consent. The learner group was gender mixed, with both male and female students represented.

Among the educators, there was notable diversity. While the majority of teachers and SMT members were African females, one participating school included educators of Indian and Coloured descent, highlighting the multiracial composition of the teaching

staff in some contexts. Most educators were mid-career professionals aged between 30 and 49 years, although principals were typically older, falling within the 50–59 year age band and bringing over 20 years of professional experience.

Parents who participated were generally African, predominantly female, and aged between 40 and 49 years. One school faced challenges in securing a parent participant, which slightly reduced the representation in this category. Parents' participation underscored the central role of families in supporting the specialized education model.

The business community representatives were uniformly Black African males, reflecting the gendered nature of small business ownership and local industry involvement in the sampled communities. Their contributions offered critical insights into the perceived economic relevance and industry alignment of the SoS initiative.

Additionally, three principals/Senior Management Team (SMT) members participated, each from a different school. Their inclusion enriched the data with leadership perspectives on policy implementation, school management, and strategic direction. Finally, a district official, an African female aged between 40 and 49 years, provided an overarching policy and system-level view of the SoS programme across the province.

Overall, the participant pool reflected the intersection of age, gender, race, and role diversity. This breadth of representation ensured that the findings captured a holistic picture of the Schools of Specialisation, incorporating voices from the classroom, the home, the community, and the education system at large.

PID	School code	Role	Gender	Age band	Experience (yrs)	Consent	Data type
P01	SOS-ENG	Teacher	M/F	30–59	5–25	Yes	INT
P02	SOS-ENG	Learner	M/F	18–19	—	Yes	FGD
P03	SOS-ENG	Parent	M/F	30–59	5–25	Yes	INT
P04	SOS-ENG	Business Rep	M/F	30–59	5–25	Yes	INT
P05	SOS-ARTS	Teacher	M/F	30–59	5–25	Yes	INT
P06	SOS-ARTS	Learner	M/F	18–19	—	Yes	FGD
P07	SOS-ARTS	Parent	M/F	30–59	5–25	Yes	INT
P08	SOS-ARTS	Business Rep	M/F	30–59	5–25	Yes	INT
P09	SOS-COMM	Teacher	M/F	30–59	5–25	Yes	INT

P10	SOS-COMM	Learner	M/F	18–19	—	Yes	FGD
P11	SOS-COMM	Parent	M/F	30–59	5–25	Yes	INT
P12	SOS-COMM	Business Rep	M/F	30–59	5–25	Yes	INT
P13	SOS-SPORT	Teacher	M/F	30–59	5–25	Yes	INT
P14	SOS-SPORT	Learner	M/F	18–19	—	Yes	FGD
P15	SOS-SPORT	Business Rep	M/F	30–59	5–25	Yes	INT
P16	SOS-MSICT	Teacher	M/F	30–59	5–25	Yes	INT
P17	SOS-MSICT	Learner	M/F	18–19	—	Yes	FGD
P18	SOS-MSICT	Parent	M/F	30–59	5–25	Yes	INT
P19	SOS-MSICT	Business Rep	M/F	30–59	5–25	Yes	INT
P20	SOS-ENG	Principal/SMT	M/F	50–59	20–25	Yes	INT
P21	SOS-ARTS	Principal/SMT	M/F	50–59	20–25	Yes	INT
P22	SOS-COMM	Principal/SMT	M/F	50–59	20–25	Yes	INT
P23	All (District)	District Official	F	40–49	15–20	Yes	INT

4.3 ANALYTIC APPROACHES

The study was analysed against research objectives as listed in the introduction section of this chapter. The analysis selected a number of Excerpts from participantss from participants against each objective as presented below.

4.3.1 Research Objective 1: To describe how different stakeholders perceive the impact of these schools

Excerpts from participants 1: Learner

> *"In the school, it's very competitive. So what I mean by that is just that, like everyone has the drive to be successful, we all know what we want, because we limited our choices to commence by coming here."*

This statement highlights the competitive nature of the school, suggesting that the specialization model fosters a culture of ambition and determination. The learner's

emphasis on "drive to be successful" implies that students are motivated to excel due to their choice to attend a specialized school. The phrase "we all know what we want" suggests that the school provides clear academic and career pathways, which may lead to a greater sense of direction among students. Specialization appears to help students focus their aspirations, minimizing distractions and uncertainty about their future goals. However, while competitiveness can be beneficial, it might also create pressure and stress among students, which could have unintended consequences. The Excerpts from participants implies that students self-select into these schools, meaning that those without clear career ambitions may struggle to keep up with the driven environment.

Excerpts from participants 2: Learner

> *"It has pushed me to make sure that I get the marks that I really want, so academically, I would say it has pushed me to strive for betterness and deepness." (Learner)*

This response suggests that the school environment encourages students to improve academically and develop a deeper understanding of their subjects. The use of the word "pushed" indicates that external factors such as competition, expectations, or structured support systems motivate students to work harder. The mention of "strive for betterness and deepness" implies that the student is not just aiming for higher grades but also a deeper comprehension of their studies. This aligns with the goal of specialized schools, which aim to provide focused, high-quality education in particular fields. However, while the emphasis on academic improvement is positive, it is unclear whether this pressure is beneficial for all students or if it might negatively impact those who struggle with the workload. The Excerpts from participants supports the idea that specialized schools are effective in fostering academic growth but does not account for the experiences of students who may find the rigorous environment overwhelming.

Excerpts from participants 3:

> *"I was a very shy child, like growing up, very shy. I came into Pace, started debates. Grade Eight, started debate. Up until last year, I became president of the debate team." (Learner)*

This statement showcases the transformative impact of specialized schools on personal development, particularly in terms of confidence-building and leadership. The learner

acknowledges their initial shyness and attributes their growth to their participation in school activities such as debating. The progression from a shy child to the president of the debate team suggests that the school offers opportunities for personal and social development beyond academics. It also implies that the school's structure and extracurricular programs are effective in nurturing essential soft skills, such as public speaking and leadership. This aligns with the broader goals of specialized schools, which aim to prepare students for both academic and professional success. However, it would be important to consider whether all students benefit equally from such opportunities or if some remain disengaged due to personal or systemic barriers.

Excerpts from participants 4:

> *"Well, speaking in regards to this Green School, this school is really detrimental in the improvement of our ability to conduct and own in future, our own businesses, and develop our skills and capabilities to actually run businesses." (Learner)*

This statement emphasizes the school's role in developing entrepreneurial skills and preparing students for self-employment. The phrase "detrimental in the improvement" appears to be a misuse of words and likely meant to convey a positive impact, meaning that the school plays a critical role in shaping students' business acumen. By teaching students how to "conduct and own" businesses, the school aligns with the objectives of specialized education, which include real-world application of skills. This also highlights the importance of practical learning experiences that complement theoretical education. The emphasis on future business ownership suggests that students see tangible career benefits from attending this school. However, it would be valuable to examine whether these entrepreneurial skills translate into actual business success post-graduation.

Excerpts from participants 5:

> *"The school makes sure that we get to talk as children, express like our fears and challenges to the school." (Learner)*

This statement highlights the school's commitment to student well-being and emotional support. The ability for students to "express fears and challenges" suggests that the school fosters a safe and supportive environment, which is crucial for both personal and academic success. This aligns with the idea that specialized schools do not only focus

on technical skills but also on holistic student development. The use of "the school makes sure" implies a structured effort to encourage open communication between students and faculty. However, while the provision of emotional support is commendable, it would be important to assess whether all students feel equally comfortable expressing themselves. The effectiveness of these support systems could depend on factors such as teacher-student relationships, school culture, and available resources.

Excerpts from participants 6:

> *"We actually do stick to the mandate of teaching and learning, you know. So it is beneficial that people get to do what they came to school for." (Learner)*

This statement reinforces the idea that specialized schools remain committed to their primary educational objectives. The phrase "stick to the mandate" suggests a disciplined and goal-oriented approach to education, which may be a key strength of the specialization model. The assertion that students "get to do what they came to school for" implies that the curriculum aligns well with students' expectations and career goals. This structured approach can help maintain student motivation and engagement. However, the Excerpts from participants does not account for students who may enter the school with unclear or evolving career interests. It is important to consider whether the specialized nature of the school allows for flexibility in career exploration.

Excerpts from participants 7:

> *"We have learned as a school to know how to discipline people without obviously installing corporal punishments." (Learner)*

This statement suggests that the school has a strong disciplinary framework that does not rely on outdated punitive measures. The phrase "learned as a school" indicates that both students and staff have developed a culture of constructive discipline. This could imply the use of restorative practices, peer mediation, or other positive reinforcement strategies. Maintaining discipline without corporal punishment aligns with modern educational best practices and promotes a more positive school environment. However, the Excerpts from participants does not clarify what specific disciplinary measures are in place and how effective they are. It would be useful to explore whether students

perceive these methods as fair and whether they contribute to an overall improvement in school culture.

Excerpts from participants 8:

> *"Since I think entrepreneurship started, I'll talk for beauty, because I was mostly part of beauty. Beauty started last year, so we are the first groups to be going out." (Learner)*

This statement illustrates how new programs within specialized schools provide students with direct, practical learning experiences. The learner's excitement about being part of the "first groups to be going out" suggests that the program offers real-world exposure, possibly through internships, competitions, or practical assignments. This hands-on learning approach is critical for bridging the gap between theory and practice. However, as the program is relatively new, it raises questions about its long-term effectiveness and sustainability. Evaluating how these programs evolve and adapt to industry demands will be essential in assessing their success.

Excerpts from participants 9:

> *"We get to engage with a lot of events in the school, we get to deliver speeches. We have more tasks of orals. We have more tasks in general, because English is our home language here." (Learner)*

This statement highlights the emphasis on communication skills within the school's curriculum. The reference to "delivering speeches" and "orals" suggests that students are given numerous opportunities to practice public speaking. This aligns with the broader objective of specialized schools to produce well-rounded graduates. However, while strong communication skills are valuable, the Excerpts from participants does not indicate whether similar opportunities exist for students who are less inclined toward public speaking. Ensuring that all students benefit from such experiences requires a balanced approach that caters to different learning styles.

Excerpts from participants 10:

> *"Learners are there, able to experiment, able to engage, able to do things and then be creative as they are supposed to be, without any limitations." (Educator)*

This statement underscores the school's emphasis on creativity and experiential learning. The phrase "without any limitations" suggests a flexible and student-centered approach. Encouraging experimentation and engagement can lead to higher student motivation and innovation. However, the Excerpts from participants does not specify whether all students feel equally encouraged to take creative risks. Some students might require more structured guidance to benefit from this approach.

Excerpts from participants 11:

> *"Learners now in the school specialization, they focus… We have math, science and ICT. I will talk about the ICT part because I coordinate that, and I actually love how learning has become and how it has changed for learners." (Educator)*

This statement highlights the role of specialized subjects in shaping students' learning experiences. The educator points out that students in these schools have a defined focus, suggesting that the specialization model helps students concentrate on particular fields of study. The specific mention of math, science, and ICT indicates the emphasis on technical and analytical skills, which are essential for modern careers. The educator's enthusiasm about ICT suggests that technology integration is enhancing the teaching and learning process. The phrase "how learning has become and how it has changed" implies that the transition to specialized education has had a noticeable impact on both teaching methodologies and student engagement. However, the Excerpts from participants does not explore whether all students benefit equally from this structured focus or whether some feel constrained by the lack of subject diversity.

Excerpts from participants 12:

> *"Teaching right now, it's become even more flexible, like it has become more enjoyable, just become more fun compared to how it was before." (Educator)*

This statement suggests that specialized education has transformed the teaching experience, making it more dynamic and engaging. The mention of flexibility indicates that educators now have more room to explore innovative teaching methods, possibly incorporating technology, hands-on learning, and interactive projects. By stating that teaching has become "more enjoyable", the educator implies that both teachers and students are benefiting from this shift. The emphasis on fun in learning is significant because it suggests a move away from rigid, traditional methods toward a more

engaging and student-centered approach. However, while flexibility is beneficial, it raises the question of how well teachers are supported in adapting to these changes. Some educators may struggle with new teaching strategies, requiring additional training or resources.

Excerpts from participants 13:

> *"For me, as an individual and somebody who is maybe interested in this new, you know, volume of youth, technology and everything, I think this came at the right time." (Educator)*

This statement reflects a personal perspective on how specialized schools align with broader trends in education and technology. The phrase "volume of youth, technology and everything" suggests that the educator sees a direct connection between modern educational needs and the specialization model. The assertion that this approach "came at the right time" implies that it addresses existing gaps in the education system, particularly in preparing students for the future. This statement also highlights the importance of keeping up with technological advancements, ensuring that students gain relevant skills for evolving industries. However, the Excerpts from participants lacks specifics on what exactly makes this approach timely—whether it is due to industry demands, global competitiveness, or changes in student learning preferences. A deeper examination of how specialization aligns with job market trends could provide further insight.

Excerpts from participants 14:

> *"It's no more teacher-centered, where my learning evolves around teaching teachers themselves. Now, learners are there, able to experiment, able to engage, able to do things and then be creative as they are supposed to be, without any limitations." (Educator)*

This statement emphasizes a shift from traditional teacher-led instruction to a more student-centered learning environment. The phrase "no more teacher-centered" suggests a deliberate move towards active learning, where students take greater ownership of their education. The mention of experimentation and engagement implies that students are encouraged to apply knowledge practically rather than passively receive information. By stating that students are now "able to be creative as they are

supposed to be, without any limitations," the educator suggests that specialized schools promote innovation and critical thinking. However, the Excerpts from participants does not explore potential challenges, such as whether all students feel comfortable with this level of autonomy or whether some require more structured guidance. The effectiveness of student-centered learning depends on the availability of resources, trained educators, and institutional support to facilitate this approach.

Excerpts from participants 15:

> *"I think the perception is, yes, we are getting there. It's no more just promises; right now, we are really moving with the times." (Educator)*

This statement conveys optimism about the progress of specialized education. The phrase "we are getting there" suggests that while challenges still exist, the school is making strides toward its objectives. The distinction between "just promises" and "really moving with the times" implies that earlier initiatives may have lacked effective implementation, but current efforts are showing tangible results. This highlights the evolving nature of educational reforms, where specialized schools are beginning to align with modern demands. However, while This statement reflects positive change, it lacks specific examples of how the school is modernizing. More concrete evidence—such as curriculum improvements, technology adoption, or student success stories—would strengthen the argument that specialized education is achieving its intended goals.

Excerpts from participants 16:

> *"I think it has a huge impact on children because it offers inclusivity, inclusivity and global impacts on educating children in global sciences and lifelong learning. So first of all, the children are at an advantage because they are getting something that other schools are not, especially in math, science, and diversity as well as innovation and high-tech advancements." (Parent)*

This statement reflects a strongly positive perception of the Schools of Specialisation, emphasizing their global relevance and inclusivity. The repeated mention of "inclusivity" suggests that the parent values the fact that the school caters to diverse learners, possibly by offering specialized programs, modern teaching methodologies, or exposure to international opportunities. The mention of "global sciences and lifelong learning" indicates that the school is seen as a bridge to international education trends, preparing

students not just for local success but for participation in global industries. The comparison with other schools highlights that parents recognize the unique advantages that come with specialization, particularly in subjects like math, science, and innovation. However, the Excerpts from participants does not clarify whether all students equally benefit from these advancements or if some may struggle with the high expectations and rigorous curriculum. While the school's global outlook is a strength, ensuring that all students are supported in these specialized subjects remains crucial.

Excerpts from participants 17:

> *"I've noticed significant growth in him. Personally, it has been transformative. For example, my son went to America two months ago because of the school's support. He participated in the ISSF (International Science and Engineering Fair), where he presented a project on bobsleigh bionic bioengineering diversity." (Parent)*

This statement highlights the personal and academic transformation experienced by a student due to the specialized school. The phrase "significant growth" suggests that the parent has observed noticeable changes in their child's confidence, skill development, or intellectual curiosity. The mention of "transformative" implies a deep, lasting impact on the student's educational journey. The participation in an international competition (ISSF) shows that the school provides exceptional opportunities for students to engage in real-world applications of their knowledge. The reference to a project in "bobsleigh bionic bioengineering diversity" indicates that students are exposed to cutting-edge fields and interdisciplinary learning, which may not be common in traditional schools. However, the Excerpts from participants raises questions about whether such opportunities are equally accessible to all students or whether they are limited to a select few with exceptional abilities. Additionally, the level of parental involvement in facilitating such experiences could be a factor in student success.

Excerpts from participants 18:

> *"Parents are seeing the benefits for their children. For instance, the children are excelling in subjects like maths, and the school provides opportunities for additional learning. One significant benefit is that the children can come to school even on Saturdays for extra lessons or activities." (Parent)*

This statement reinforces the perception that specialized schools provide academic advantages, particularly in STEM-related subjects like mathematics. The phrase "parents are seeing the benefits" suggests that there is visible, measurable progress in students' academic performance. The mention of "additional learning" and "extra lessons on Saturdays" shows that the school prioritizes academic support and enrichment programs, ensuring that students have extended learning opportunities. The availability of Saturday classes indicates a commitment to high achievement, where students are encouraged to go beyond regular school hours to strengthen their skills. However, the Excerpts from participants does not address whether all students are willing and able to attend these extra sessions. Socioeconomic factors, transport issues, or student burnout could pose challenges to making full use of these opportunities. While academic excellence is a key strength, the potential for over-scheduling and stress should also be considered.

Excerpts from participants 19:

> *"We try to engage our parents to actually get involved in the programs of the school, and I believe that is actually happening now. We are emphasizing quite a lot on the fact that we are still a specialization school, and parents need to take it seriously. We can't do it alone, because it's a big project. Our goal is to achieve a 100% pass rate, including distinctions at the end of matric." (Parent)*

This statement highlights the role of parental involvement in student success at specialized schools. The phrase "we try to engage our parents" suggests that while efforts are being made to involve parents, engagement is not yet at an optimal level. The fact that "it is actually happening now" indicates recent improvements in parent-school collaboration, which is crucial for student motivation and academic achievement. The Excerpts from participants also reinforces the high expectations placed on students, as seen in the goal of a "100% pass rate, including distinctions". While this ambition reflects academic rigor and institutional commitment, it could also introduce pressure on students and teachers to meet exceptionally high standards. The phrase "we can't do it alone" suggests that parents are expected to play an active role in supporting their children's education, whether through monitoring academic progress, reinforcing learning at home, or participating in school initiatives. However, the Excerpts from

participants does not consider whether all parents have the time, resources, or skills to fully engage in their child's specialized education.

Excerpts from participants 20:

> *"First of all, I think the principal herself is very open. It's not like at other schools where communication is difficult. Here, you can contact her directly, and she responds personally. I really appreciated this during my child's research project. She was fully involved, helping and guiding us throughout the process." (Parent)*

This statement emphasizes the importance of leadership and communication in specialized schools. The parent appreciates the principal's openness and accessibility, suggesting that the school fosters strong parent-school relationships. The phrase "it's not like at other schools" implies that traditional schools may have bureaucratic barriers to communication, whereas specialized schools promote a more direct, hands-on approach. The mention of the principal's involvement in a research project suggests that school leadership is actively engaged in student learning, which can enhance academic success and student motivation. However, This statement raises questions about whether all students receive the same level of support or if certain students, such as high-achievers or those with proactive parents, benefit more from direct engagement with school leadership. Additionally, while personalized guidance is beneficial, a scalable system of support needs to be in place to ensure that every student gets equal access to mentorship and academic assistance.

4.3.2 Research Objective 2: Perceived Strengths and Weaknesses of the Schools of Specialisation

Excerpts from participants 1 (Learner):

> *"I think the main strengths of the SOS model compared to just a regular school is we get to actually apply what we learn in the classroom, rather than just learning the theoretical side."*

This statement emphasizes the practical, hands-on learning that distinguishes specialized schools from traditional institutions. The learner acknowledges that applying knowledge directly in real-world scenarios enhances understanding and skill retention. This aligns with experiential learning theories, which suggest that students grasp

concepts more effectively when engaged in active, participatory education. However, while practical learning is a strength, it requires adequate resources, such as equipment, laboratories, and qualified teachers. Without proper implementation, there is a risk that hands-on training may be inconsistent or insufficient for certain students. Additionally, some subjects inherently require theoretical depth, and an overemphasis on application might lead to knowledge gaps in foundational principles.

Excerpts from participants 2 (Learner)

> *"As a learner, if you have a business idea, you are more than welcome to pitch it to the principal, and then the principal will initiate that you pitch the idea to the HGP, you pitch it to all relevant stakeholders, and then you can actually pursue this."*

This statement highlights the school's encouragement of student entrepreneurship, demonstrating an open-door policy that allows learners to develop and implement business ideas. The direct engagement with school leadership and external stakeholders suggests a supportive entrepreneurial ecosystem that fosters innovation, leadership, and financial literacy. This is particularly beneficial in developing economies, where job creation and self-employment are essential for economic growth. However, the success of such initiatives depends on whether all students receive equal opportunities or if participation is limited to a select few with strong ideas or connections. Moreover, it is unclear whether these business ventures receive long-term support, mentorship, or funding beyond initial approval. Without structured follow-up mechanisms, student-led enterprises may struggle to sustain themselves.

Excerpts from participants 3 (Learner):

> *"Yes, it's governing people to go into the correct direction, making sure we don't like fall into drugs and all these things, because of many programs that we get to have in those schools."*

This statement points to the role of specialized schools in fostering discipline and social responsibility. By providing structured programs and extracurricular activities, these institutions may reduce student exposure to negative influences, such as drug use and delinquency. The mention of "governing people to go into the correct direction" suggests that the school actively promotes values, career pathways, and responsible behavior.

However, while structured environments help in preventing risky behaviors, external socio-economic factors also play a role. If students come from high-risk communities, the school's influence may be limited outside school hours. Additionally, the effectiveness of such programs depends on whether they are engaging, relevant, and backed by adequate mentorship and support systems.

Excerpts from participants 4 (Learner):

> *"The school's strength is basically providing training to people, equipping young South Africans with strengths to not only be able to be academically gifted but use their hands to work."*

This statement highlights the dual benefit of specialized schools: academic excellence and vocational training. By balancing intellectual learning with practical skill development, these institutions prepare students for a wider range of career opportunities. This aligns with South Africa's national education strategy, which emphasizes vocational training to combat youth unemployment. However, while equipping students with practical skills is beneficial, not all students may aspire to hands-on careers. Those interested in academic professions, law, or humanities may feel that the curriculum does not adequately support their ambitions. Ensuring flexibility in subject choices would allow students to adapt their learning pathways according to their long-term goals.

Excerpts from participants 5 (Learner):

> *"We sometimes tend to focus on what is taught here, and sometimes it limits the way we think and the subjects that we could view for tertiary institutions."*

This statement identifies a limitation of Schools of Specialisation: the risk of academic narrowness. While focused learning in specialized subjects provides depth, it may restrict exposure to a broader curriculum. This could impact students who later decide to pursue careers outside their chosen specialization, requiring them to take additional courses at university. The phrase "limits the way we think" suggests that over-specialization may discourage interdisciplinary learning and creative problem-solving. One possible solution is for specialized schools to offer electives or bridge programs that provide greater academic flexibility. This would ensure that students remain adaptable in an evolving job market.

Excerpts from participants 6 (Learner):

> *"I think it would be amazing if learners got to experience what it's like being an accountant, actually running a business, rather than just learning the theory of it."*

This statement emphasizes the gap between theoretical education and real-world experience. While accounting as a subject may cover financial principles, students may not always get the opportunity to apply their knowledge in real business settings. Practical experiences, such as internships, school-run businesses, and industry partnerships, would bridge this gap and enhance learning outcomes. However, implementing such programs requires strong industry collaboration, which may be challenging for schools with limited external networks. Without structured practical exposure, students may struggle with the transition from school to the workplace. Ensuring that every learner has access to real-world business experiences would strengthen the effectiveness of specialized education.

Excerpts from participants 7 (Learner):

> *"The school makes sure that we get to talk as children, express our fears and challenges, because mental health is a big issue in the current times."*

This statement highlights the importance of mental health support in schools. By encouraging students to express their emotions and challenges, specialized schools may be fostering a supportive and psychologically safe environment. However, while open communication is crucial, the Excerpts from participants does not clarify whether trained professionals, such as school counselors or psychologists, are available to provide structured guidance. If mental health support is informal or inadequate, students may still struggle with stress and anxiety. Furthermore, the pressure to excel in specialized fields could contribute to mental health issues, particularly for students who find it difficult to keep up with high expectations. Schools must ensure that mental health programs are well-integrated into the academic structure, rather than relying solely on peer support or teacher intervention.

Excerpts from participants 8 (Learner):

> *"There is no specific curriculum for entrepreneurship; rather, there are extracurricular activities that support it."*

This statement identifies a structural weakness in the school's approach to entrepreneurship education. While extracurricular activities provide students with exposure to business concepts, they do not offer the structured, graded learning experience that a formal curriculum would provide. Without a dedicated entrepreneurship curriculum, students may receive inconsistent instruction, with some benefiting from hands-on experience while others may not engage deeply. The lack of formal assessment also means that students may not receive certifications or qualifications that validate their entrepreneurial skills. This could limit their ability to secure business funding or university placements in entrepreneurship-related programs. A possible solution would be to integrate entrepreneurship into the core curriculum, ensuring that all students receive structured training in business management, financial literacy, and innovation.

Statement 9 (Learner):

> *"Our school is very competitive, and that's a good thing, but sometimes the workload becomes overwhelming, and some learners struggle to keep up."*

This statement presents both a strength and a challenge of the specialized school environment. On one hand, competition drives excellence, encouraging students to work hard and perform at their best. On the other hand, the intensity of the workload may be mentally and emotionally taxing, leading to stress, burnout, and performance anxiety among some students. The phrase "some learners struggle to keep up" suggests that while high-achievers may thrive in this setting, others may find the demands excessive. If students do not receive adequate academic support, counseling, or workload management strategies, the pressure may result in poor mental health, disengagement, or even dropout rates. Schools must strike a balance between academic rigor and student well-being by offering structured support systems, flexible pacing, and mental health interventions.

Statement 10 (Learner):

> *"The biggest challenge I see is that if you realize later that you want to do something outside of our specialization, it might be too late to change."*

This statement underscores one of the major drawbacks of specialized education: limited flexibility. While specialization provides depth in specific fields, it may restrict

students' ability to explore diverse academic interests. If a student develops new interests or career goals outside their specialization, they may find it difficult to switch tracks, requiring additional schooling or external qualifications to pivot. This rigidity can be especially problematic in cases where students discover their true passions later in their academic journey. To address this, specialized schools should consider offering elective subjects, interdisciplinary courses, or bridge programs that allow students to transition into different career pathways without completely restarting their education.

Excerpts from participants 11 (Educator):

> *"The strength of the school is the human resources and the teachers, as you mentioned, and the leadership and the qualification of these teachers."*

This statement highlights the importance of strong human capital in ensuring the success of specialized schools. Having qualified educators with expertise in technical, vocational, and academic subjects ensures that students receive high-quality instruction. Additionally, the mention of strong leadership suggests that the school benefits from effective administration, strategic planning, and clear institutional goals. However, even with qualified teachers, the effectiveness of education depends on continuous professional development, access to updated resources, and a supportive teaching environment. If teachers are overworked or lack modern teaching tools, their ability to deliver engaging, high-quality lessons may be compromised. Schools must ensure that educator training and support systems are prioritized, allowing teachers to continuously improve their skills.

Excerpts from participants 12 (Educator):

> *"In terms of specialization subjects, we are fortunate—we have highly qualified educators. Some of them came from the business world and bring real-world expertise into the classroom."*

This statement reinforces the value of industry-experienced teachers in bridging the gap between academic learning and professional practice. Having teachers who have worked in relevant industries allows students to gain firsthand knowledge of real-world applications, industry expectations, and emerging trends. This enhances the practical relevance of their education, preparing them more effectively for the workforce. However, not all industry professionals are trained educators, and their ability to

effectively deliver content, engage students, and assess learning outcomes may vary. Schools must ensure that these professionals receive teacher training to equip them with instructional skills, classroom management strategies, and student-centered teaching methods.

Excerpts from participants 13 (Educator):

> *"One of the weaknesses we see is that not all teachers have bought into the school of specialization model. Some are hesitant to change, which affects implementation."*

This statement reveals a barrier to effective implementation of specialized education: teacher resistance to change. Some educators may struggle to adapt to new teaching methods, technology, or interdisciplinary approaches. The phrase "hesitant to change" suggests that some teachers prefer traditional instructional models, which may hinder the integration of innovative teaching strategies. This resistance could stem from lack of training, fear of failure, or discomfort with new methodologies. To address this, schools should invest in professional development programs, offer mentorship opportunities, and provide incentives for teachers who actively engage in specialized teaching methods.

Excerpts from participants 14 (Educator):

> *"Technology has a great impact in improving teaching and learning, because we are a full ICT school from grade 8 to 12. Learners have gadgets, smartboards, and internet access, making learning more interactive."*

This statement highlights the integration of technology as a strength of specialized schools. Digital tools such as smartboards, student tablets, and online learning platforms enhance engagement, collaboration, and access to information. The phrase “making learning more interactive” suggests that technology enables multimedia-rich lessons, real-time feedback, and adaptive learning. However, the effectiveness of ICT integration depends on whether all students and teachers have adequate training to use these tools efficiently. Additionally, technical challenges, internet connectivity issues, and the digital divide may create inequities in learning experiences. Schools must ensure that students and teachers receive the necessary digital literacy training to maximize the benefits of technology.

Excerpts from participants 15 (Educator):

> *"Teachers struggle to balance running specialized projects and regular teaching responsibilities, which sometimes affects the execution of practical learning experiences."*

This statement highlights the workload challenges faced by educators in specialized schools. Teachers are expected to manage traditional classroom teaching, coordinate specialized projects, and facilitate hands-on training, which can be overwhelming. The phrase “affects the execution” implies that some specialized learning experiences may be rushed, incomplete, or poorly supervised due to time constraints. Without proper workload management, administrative support, or additional staffing, teachers may experience burnout, leading to lower teaching effectiveness. To mitigate this, schools should consider hiring industry mentors, project coordinators, or support staff to assist in running specialized programs.

Excerpts from participants 16 (Parent):

> *"Parents are seeing the benefits for their children. For instance, the children are excelling in subjects like maths, and the school provides opportunities for additional learning."*

This statement reflects a positive perception of specialized schools, particularly regarding academic performance and enrichment opportunities. The phrase "parents are seeing the benefits" suggests that the advantages of specialized education are visible and measurable, implying improved student outcomes, confidence, and subject mastery. The emphasis on maths as a key subject highlights the school's STEM focus, which aligns with global trends emphasizing science, technology, engineering, and mathematics as essential skills for future job markets. Additionally, the reference to "opportunities for additional learning" suggests that the school provides extra academic support, possibly through after-school programs, tutoring, or advanced coursework.

However, while academic improvement is a strength, this statement does not clarify whether these benefits are equally distributed among all students. Some learners might struggle with the fast-paced, high-expectation environment, especially if they require different learning styles or additional assistance. Moreover, the statement does not address whether subjects outside STEM, such as arts, humanities, and social sciences,

receive equal focus. If the school prioritizes certain subjects over others, students with non-STEM interests may feel neglected or constrained in their career choices.

To maximize the benefits of specialized schools, academic enrichment should be balanced with holistic development, ensuring that students excel in diverse fields while also receiving mental and emotional support.

Excerpts from participants 17 (Parent):

> *"I think the school is doing well, but we need better resources, better labs, and improved facilities to make sure the learners can fully benefit from the specialized programs."*

This statement acknowledges both the strengths and limitations of the Schools of Specialisation. The phrase "the school is doing well" suggests that parents recognize value in the specialized education model, possibly in terms of curriculum, teaching quality, or student progress. However, the parent also highlights a critical gap in resources and infrastructure, which may limit the effectiveness of specialized education.

The mention of "better labs" suggests that students require updated scientific equipment, computing resources, or industry-standard tools to fully engage with practical learning experiences. Similarly, "improved facilities" could refer to classroom spaces, libraries, recreational areas, or industry-linked training centers. Without these essential resources, students may struggle to gain hands-on experience, making it difficult to apply theoretical knowledge to real-world problems.

This statement also raises equity concerns, as some Schools of Specialisation may have better funding and infrastructure than others, leading to disparities in learning quality. Schools in underfunded areas might offer theoretical education without the necessary tools to support specialized training, putting students at a disadvantage compared to their peers in better-equipped institutions.

To address these challenges, government funding, private sector partnerships, and strategic investment in facilities must be prioritized. Without adequate infrastructure, the goals of specialized education may remain unrealized for many students.

Excerpts from participants 18 (Parent):

"The school has launched different partnerships with universities, which gives students an advantage in gaining early exposure to tertiary education."

This statement highlights a significant strength of specialized schools: early academic and career preparation through university partnerships. Such collaborations offer numerous benefits, including:

- Early exposure to higher education environments
- Opportunities for mentorship from university professors
- Access to advanced courses, research projects, and university facilities
- A smoother transition from high school to tertiary education

The phrase "gives students an advantage" suggests that these partnerships enhance students' competitiveness in securing university placements, scholarships, or early admissions into specialized degree programs. This aligns with global best practices, where specialized schools form partnerships with higher education institutions to create direct pathways for students into specialized fields.

Excerpts from participants 19 (Parent):

"One of the challenges we faced initially was adapting to the curriculum. Some students, especially those from regular primary schools, struggled at first."

This statement identifies a significant transition challenge for students entering specialized schools, particularly those from non-specialized primary schools. The phrase "struggled at first" suggests that students may experience a learning gap due to differences in teaching styles, subject focus, and academic expectations.

One possible issue is that traditional primary schools may not fully prepare students for the rigorous and focused curriculum of specialized schools. If students lack foundational skills in subjects like math, science, or business, they may find it difficult to adjust to the pace and depth of specialized education.

Additionally, differences in teaching methods—such as increased project-based learning, industry integration, and self-directed study—may be unfamiliar to students who are used to traditional classroom instruction. Without proper orientation, bridging

programs, or academic support, some students may fall behind, affecting their confidence and performance.

Excerpts from participants 20(Parent):

> *"The specialization model is great, but sometimes it limits students. If they later decide they want to pursue something outside their specialization, it might be difficult to adjust."*

This statement highlights one of the most debated challenges of specialized education: limited flexibility in career choices. While specialization provides in-depth expertise, it may also restrict students' ability to explore different fields. The phrase "difficult to adjust" suggests that students who develop new academic or career interests later in their schooling journey may find it challenging to switch tracks.

This concern is particularly relevant because young learners' career aspirations often evolve. A student who initially excels in science and technology may later develop a passion for law, humanities, or fine arts, but a specialized school may not offer sufficient flexibility to pivot to these fields.

Additionally, university admission requirements may be structured around a student's specialized subjects, limiting their eligibility for alternative degree programs. This could create barriers to higher education access, forcing students to take extra courses after matriculating or pursue alternative qualifications.

A potential solution is for specialized schools to introduce elective subjects or interdisciplinary pathways that allow students to explore broader career options. By offering flexibility in course selection, schools can ensure that students are not confined to rigid career paths.

4.3.3 Objective 3: How stakeholder perceptions align with the objectives of the Schools of Specialisation

Excerpts from participants 1 (Learner):

> *"The school motto is 'From hardship to stars.' So from hardship to stars, wow. So I think coming in here as a grade eight learner, personally, I've achieved a lot from starting."*

This statement highlights the transformational journey that the school promotes. The phrase "from hardship to stars" signifies overcoming challenges and striving for excellence, which aligns well with the goal of the Schools of Specialisation (SOS)—to equip students with skills and confidence for success. The learner expresses personal growth, suggesting that their experience has lived up to the school's vision. However, while this is a positive reflection, it does not specify whether this growth is academic, personal, or both. It also raises the question of whether all students feel this transformation or if some struggle with the specialized system. More detailed evidence—such as specific achievements—would make this statement stronger.

Excerpts from participants 2 (Learner):

> *"I think the school has also taught me how important it is to have those characteristic aspects of being a risk taker, being focused and making calculated risks."*

This statement suggests that the school develops entrepreneurial and leadership skills, which is a key objective of the SOS model. The emphasis on "calculated risks" indicates that students are not just encouraged to take chances but are taught strategic decision-making. This aligns with the aim of producing business-minded and innovative individuals. However, it is unclear whether this mindset is developed across all fields or if it is more prominent in entrepreneurship and business-focused programs. Some students may struggle with risk-taking, especially if they come from traditionally structured learning environments. Schools may need to ensure that this approach is accessible and beneficial for all students, including those in more theoretical disciplines.

Excerpts from participants 3 (Learner):

> *"Learners now in the school specialization, they focus… We have math, science, and ICT. I will talk about the ICT part because I coordinate that, and I actually love how learning has become and how it has changed for learners."*

This statement highlights the structured and career-focused nature of specialized education. The student's involvement in coordinating ICT activities suggests that the school empowers students to take leadership roles, which is a critical aspect of experiential learning. The phrase "how learning has become and how it has changed" implies a shift from traditional education to a more interactive, hands-on approach.

However, this perspective is limited to ICT, raising questions about whether learners in other fields (e.g., humanities, business) experience the same level of engagement. Schools should ensure that all specialization areas provide leadership and hands-on opportunities, not just technical fields.

Excerpts from participants 4 (Learner):

> *"I think most learners are now familiar with the fact that we are a commercial school, and most of them are on an everyday basis trying to do something more that is innovative."*

This statement reflects how students have internalized the school's specialized focus. The mention of a "commercial school" indicates that students are aware of their learning environment and its expectations. The emphasis on daily innovation aligns with the entrepreneurial and problem-solving focus of specialized education. However, it is unclear whether this innovation is structured and guided by the school or if it is driven by a small group of highly motivated students. Schools must ensure that all students receive equal opportunities to engage in innovation, rather than only those who are naturally inclined toward entrepreneurship.

Excerpts from participants 5 (Learner):

> *"Schools of Specialisation not only help learners know that there are different career paths, but it opens up their horizons to doing different things and actually knowing what they want in life."*

This statement directly supports the objective of career alignment and industry exposure. The phrase "opens up their horizons" suggests that students gain awareness of various career options, reducing uncertainty about their futures. However, while exposure to career paths is beneficial, this statement does not clarify whether students are given the flexibility to switch specializations if their interests change. If schools are too rigid in their academic pathways, students may still feel limited despite having career knowledge. Providing career counselling and interdisciplinary learning options would strengthen this benefit.

Excerpts from participants 6 (Learner):

> *"For me, it's about skill application rather than just pushing content."*

This statement reflects a shift away from rote learning toward practical education, which aligns with the SOS model's goal of producing job-ready graduates. The student values hands-on experiences over traditional content memorization, indicating that specialized schools are providing real-world learning experiences. However, not all subjects may lend themselves to skill application. Fields like theoretical sciences or humanities may still require a balance of content mastery and practical work. Schools must ensure that the focus on application does not neglect foundational theoretical knowledge where necessary.

Excerpts from participants 7 (Learner):

> *"The schools of specialization require funding for running projects, but it's difficult to find funding for businesses at a school level."*

This statement identifies a major challenge in specialized education: limited financial resources. While students are encouraged to engage in business projects, the lack of funding restricts their ability to implement their ideas effectively. This contradicts the goal of real-world application, as innovation cannot thrive without adequate financial support. Schools need to explore partnerships with private investors, government grants, or crowdfunding initiatives to sustain these projects.

Excerpts from participants 8 (Learner):

> *"If you don't know, you came here because you are here to explore and learn."*

This statement suggests that specialized schools are not just for students with defined career paths, but also for those who are still discovering their interests. The emphasis on exploration reinforces the flexibility of learning in these institutions. However, not all students may feel this level of freedom, especially if specialization tracks are strictly structured. Schools should ensure that there are bridges between disciplines so that students who develop new interests can transition smoothly.

Excerpts from participants 9 (Learner):

> *"The great thing about this school is that it teaches us independence. We are responsible for our own learning, and we are encouraged to take initiative."*

This statement aligns with the SOS model's goal of producing self-reliant individuals. The emphasis on initiative and independence suggests that students are taught to think

critically and solve problems autonomously. However, while independence is valuable, some students may require additional guidance and support, especially those who struggle with self-directed learning. Schools should ensure that mentorship and structured support systems are available.

Excerpts from participants 10 (Learner):

> *"Through our in-run businesses and our learned experiences and our knowledge, we are able to go out there in the community and teach them also and actually show them that there's actually growth and gold in everything that we do."*

This statement reflects the community impact of specialized education. By applying their knowledge beyond the classroom, students contribute to society's economic and social development. This aligns with the broader mission of SOS to create leaders, entrepreneurs, and changemakers. However, it is important to evaluate whether all students feel equipped to engage with the community or if only a select group of high achievers get these opportunities. Schools should ensure equitable participation in community-driven initiatives.

Excerpts from participants 11 (Educator):

> *"We are seeing a shift in the way learners think. They are not just memorizing content; they are actually developing problem-solving skills."*

This statement highlights one of the core objectives of the Schools of Specialisation: to move beyond rote learning and focus on critical thinking and problem-solving. Traditional education systems often emphasize memorization, which can limit students' ability to apply their knowledge to real-world challenges. By contrast, this educator notes that learners in specialized schools are developing analytical skills, which aligns with the goal of preparing students for dynamic and evolving industries. However, while this shift is beneficial, it raises the question of accessibility—are all learners benefiting from this transformation, or do some still struggle with traditional learning habits? Additionally, problem-solving skills are best cultivated through practical application, so the effectiveness of this approach depends on whether schools provide sufficient real-world learning opportunities.

Excerpts from participants 12 (Educator):

"The key mission of the Schools of Specialisation is to align education with the needs of the future workforce. We are equipping learners with industry-relevant skills."

This statement directly supports the core vision of specialized education, which is to ensure that students graduate with skills that are in demand in the job market. The phrase "align education with the needs of the future workforce" suggests that the school actively adapts its curriculum to match economic and technological trends. This is crucial in a world where automation, digitalization, and innovation are rapidly reshaping employment. However, the challenge lies in ensuring that the curriculum remains adaptable—if industries evolve quickly, how effectively can schools update their teaching methods and subjects? Furthermore, while industry alignment is important, some students may prefer non-traditional career paths, such as creative arts or social sciences, which may not be as strongly supported in specialized schools.

Excerpts from participants 13 (Educator):

"I think this model works because it moves away from general education and makes learning more intentional. Learners know why they are here."

This educator emphasizes the intentionality of specialized education, where students are given a clear sense of purpose from the beginning. Unlike general education, where students may study a broad range of subjects without direction, specialized schools encourage focused learning aligned with career aspirations. The phrase "learners know why they are here" suggests that students have clarity about their academic and professional goals, which can enhance motivation and engagement. However, this assumes that all students enter these schools with clear career goals, which is not always the case. Some students may discover new interests later, and if the school lacks flexibility to accommodate career shifts, they may feel restricted. To fully support all learners, schools should consider offering interdisciplinary learning pathways to allow academic exploration alongside specialization.

Excerpts from participants 14 (Educator):

"We see that learners who complete this program are more confident in entering their chosen fields because they've already had exposure through internships and projects."

This statement highlights the practical advantages of the Schools of Specialisation: real-world exposure through internships, hands-on projects, and industry collaborations. The idea that students become "more confident" suggests that their experiences go beyond textbook learning, preparing them for actual work environments. Confidence is a key factor in career success, as students who have practical experience are more likely to adapt quickly when entering the workforce or university. However, not all students may have equal access to internships or industry projects, particularly in schools where resources, funding, or partnerships are limited. Schools must ensure that opportunities are fairly distributed so that every student benefits from practical exposure, regardless of their background or specialization area.

Excerpts from participants 15 (Educator):

> *"One challenge is ensuring that all educators and students fully understand the long-term vision of specialization. Some still see it as a traditional school, but it's more than that."*

This statement reveals a potential obstacle in the implementation of the specialization model: misalignment of perceptions among teachers and students. The phrase "some still see it as a traditional school" suggests that not everyone has fully embraced the specialized approach, possibly due to lack of awareness, training, or resistance to change. If educators and students do not fully grasp the school's unique mission, it may lead to ineffective teaching methods or a lack of student engagement in specialization-focused learning. Addressing this challenge requires continuous professional development for teachers and clear communication with students and parents about the benefits and expectations of specialized education. Schools should also collect feedback from educators and learners to identify areas where additional training or orientation may be needed.

Excerpts from participants 16 (Parent):

> *"At first, I wasn't sure if this would be different from a normal school, but I can see now that my child is being prepared for real work and not just exams."*

This statement reflects a common initial concern among parents who may not fully understand how specialized education differs from traditional schooling. The phrase "at first, I wasn't sure" suggests that some parents need time and exposure to see the

benefits of this model. However, the realization that students are "being prepared for real work" rather than just exams aligns with one of the core goals of the SOS model: bridging the gap between education and employment. This shift from academic theory to practical learning reassures parents that their children will have real-world skills upon graduation. However, not all parents may reach this realization, especially if their children do not actively communicate their learning experiences at home. Schools could address this by hosting parent engagement sessions, career expos, or open days to showcase student projects and internship experiences.

Excerpts from participants 17 (Parent):

> *"This school is different because it gives students direction. My child knows what they want to do with their life much earlier than I did."*

This parent expresses appreciation for the clarity and focus that specialized schools provide. The phrase "my child knows what they want to do" suggests that the school has helped in early career decision-making, which is one of the key advantages of specialization. This contrasts with traditional education, where many students may struggle with career uncertainty well into their university years. However, early career decision-making can be a double-edged sword. While some students benefit from structured career guidance, others may feel pressured to choose a path too soon. Schools must balance specialization with career exploration, ensuring that students have the freedom to re-evaluate their interests as they grow.

Excerpts from participants 18 (Parent):

> *"Parents need to understand that this is not just about good marks; it's about giving students hands-on experience and preparing them for the future."*

This statement highlights a key misunderstanding some parents may have about specialized schools—focusing only on academic performance rather than practical skill-building. The phrase "not just about good marks" suggests that traditional education has conditioned parents to measure success by grades rather than employability. By emphasizing hands-on experience, the parent acknowledges that practical exposure is equally—if not more—important than theoretical excellence. However, schools must actively educate parents on this shift in priorities, especially if they value exam results

over real-world skills. Engaging parents through career workshops, alumni success stories, and real-world project showcases could help bridge this gap.

Excerpts from participants 19 (Parent):

> *"The school has connected my child with mentors and opportunities that they would not have had access to otherwise."*

This statement highlights the benefit of networking and mentorship, which is a crucial part of specialized education. Having industry mentors allows students to gain insights, build confidence, and access professional guidance. However, schools must ensure that mentorship programs are inclusive—are all students given equal access to these opportunities, or are they limited to top performers? Expanding mentorship programs to include a wider range of students will ensure that more learners benefit from real-world guidance.

Excerpts from participants 20 (Parent):

> *"It's a good system, but it needs more awareness. Some parents don't fully understand what specialization means and how it benefits their children."*

This statement reflects a communication gap between schools and parents. To address this, specialized schools should implement stronger parent outreach programs that explain the long-term value of specialized education.

4.3.4 Emerging Themes in Stakeholder Perceptions of Schools of Specialisation

The Schools of Specialisation (SOS) represent a new approach to education, prioritizing career readiness, skill development, and industry engagement over traditional rote learning. The perspectives of learners, educators, and parents reveal several key themes that define both the strengths and challenges of this model. These themes highlight the impact of specialized education on students' career clarity, hands-on learning experiences, entrepreneurial exposure, academic pressure, inclusivity, and resource availability.

The emerging themes from the stakeholder perspectives on the Schools of Specialisation (SOS) are:

4.3.4.1 Emerging Theme One: Career Clarity and Purpose-Driven Education

- Specialized schools help students define their career paths early.

- Learners and parents appreciate the clear direction provided by SOS.
- The challenge is ensuring flexibility for students who later change their interests.

4.3.4.2 Emerging Theme Two: Hands-On Learning and Practical Skill Development

- SOS prioritizes real-world application over rote learning.
- Students benefit from interactive, skills-based learning.
- Schools need better resources and equipment to fully implement this approach.

4.3.4.3 Emerging Theme Three: Entrepreneurship and Industry Exposure

- The curriculum encourages entrepreneurial thinking and innovation.
- Students are connected with mentors, internships, and real-world business opportunities.
- Funding limitations restrict student-led business ventures and projects.

4.3.4.4 Emerging Theme Four: Academic Pressure and Competitive Environment

- High expectations push students to excel but also cause stress.
- Learners feel a sense of competition, which can be both motivating and overwhelming.
- Schools must ensure mental health support and work-life balance.

4.3.4.5 Emerging Theme Five: Inclusivity and Accessibility

- Some students struggle to adapt to the specialization model.
- Not all teachers fully embrace the new system, leading to implementation gaps.
- Transition programs can help students adjust to the rigorous curriculum.

4.3.4.6 Emerging Theme Six: Parental Engagement and Awareness Gaps

- Many parents appreciate the real-world focus of SOS.
- Some lack awareness of how the system works, leading to misconceptions.
- Schools must improve parental outreach and engagement strategies.

4.3.4.7 Emerging Theme Seven: Resource and Infrastructure Limitations

- Schools lack modern facilities, funding, and specialized equipment.
- Teachers struggle to balance regular teaching with project-based learning.

4.3.4.8 Emerging Theme Eight: The Need for Stronger Industry Partnerships

- Industry collaborations enhance workplace readiness by providing internships, mentorships, and real-world exposure for students.
- Some schools have successful business partnerships, while others struggle to secure industry connections, leading to unequal opportunities among learners.
- Expanding cross-sector partnerships with technology, finance, engineering, and creative industries can ensure broader career pathways for students.

4.3.4.9 Emerging Theme Nine: The Role of Digital Transformation in Education

- Schools are integrating technology-driven learning through smartboards, digital labs, and e-learning platforms, enhancing interactive education.
- Limited access to digital tools among students from disadvantaged backgrounds creates a digital divide, affecting equal participation.
- Investing in ICT infrastructure and digital literacy training for both students and educators is crucial for maximizing the benefits of specialized education.

4.3.4.10 Emerging Theme Ten: Bridging the Gap Between Specialised Education and Higher Learning

- Some specialized students struggle with university transitions as their high school training is skills-based, while many university programs remain theory-heavy.
- Expanding university articulation agreements can ensure that SOS graduates receive credit recognition and a smoother transition into tertiary education.
- Schools should introduce blended academic pathways, allowing students to pursue both vocational and university-preparatory coursework, offering greater flexibility in post-school choices.

4.4 APPROACH TO GENERATION OF THEMES

As mention in Chapter Three under the data analysis section, as well as in this Chapter under section 4.3, the Inter Coder Reliability statistic using Cohen's Kappa was used to check consistency of the methods for generation of final themes. The following themes in Figure 4.1 below were generated by two coders from the Costa Research Institute, who were tasked with the function of assisting on verification of analytic methods that the researcher undertook. The two coders tested 10 themes that the researcher generated. For the exercise to be credible, the Inter Coder Reliability tests checks the extent of the agreements on generated emerging themes. In Figure 4.1, the key is provided for instances of agreements to accept and agreements to reject emerging themes.

Theme	Coder 1	Coder 2
1	1	1
2	0	1
3	0	0
4	1	1
5	0	0
6	1	1
7	0	0
8	1	1
9	1	1
10	0	0

Key
Accepting Agreement
Rejection Agreement

Figure 4.1: Emerging Themes

In this case, there was five agreements on themes with a Cohen's Kappa statistic of .80.

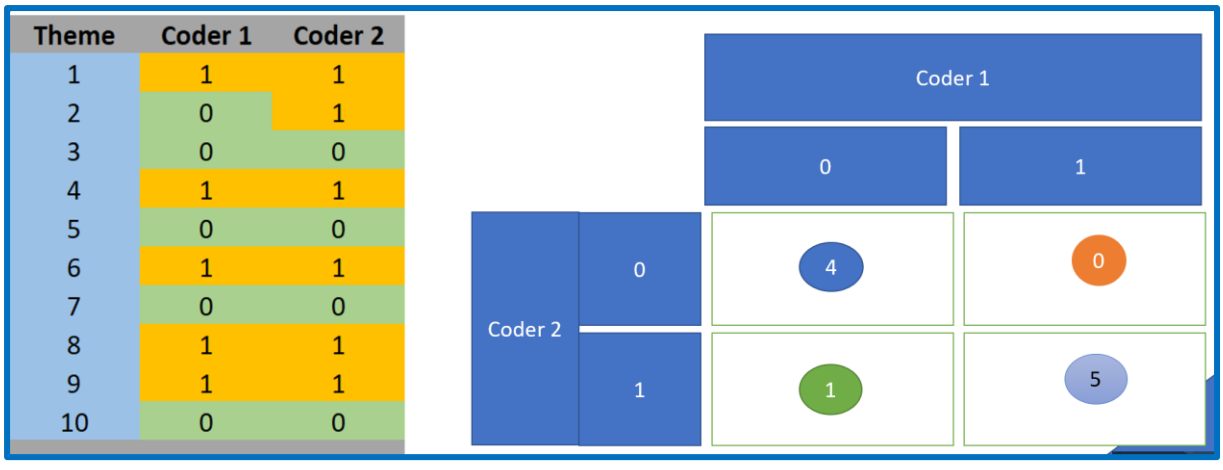


Figure 4.2: Cohen's Kappa Testing on emerging themes

Significance of Cohen's Kappa in These Findings

Cohen's Kappa (κ) is a statistical measure used to assess the reliability of agreement between two coders or raters when categorizing qualitative data. Unlike a simple percentage agreement, Cohen's Kappa accounts for the agreement that could occur by chance, making it a more robust measure of inter-coder reliability.

A Cohen's Kappa score of 0.80 suggests a strong level of agreement between the coders who identified the themes in the data. This indicates that the thematic coding of stakeholder perceptions, strengths, weaknesses, and alignment with the objectives of Schools of Specialisation was consistent and reliable. The high score enhances the credibility and validity of the qualitative analysis, ensuring that the themes identified are not just subjective interpretations but are reproducible by different researchers following the same coding framework.

Formula for Cohen's Kappa and score interpretation

Cohen's Kappa is calculated using the following formula: k = (Po - Pe) / (1 - Pe). Cohen's Kappa values range from -1 to 1, and their interpretation is generally as follows:

- < 0.20: Poor agreement
- 0.21 - 0.40: Fair agreement
- 0.41 - 0.60: Moderate agreement
- 0.61 - 0.80: Substantial agreement
- 0.81 - 1.00: Almost perfect agreement

Figure 4.3 below is a representation of final themes as tested and agreed between to coders, with a test score of .80 as mentioned above.

ID	Theme Name	Color	Action
1	Building Educators' and Learners' Self-Efficacy for a Progressive Learning Environment		Edit Delete
2	Pathways to Academic Excellence and Professional Growth		Edit Delete
3	From Local Impact to Global Influence – The Transformational Role of SoS		Edit Delete
4	Embedding Specialized Education into a Resilient and Adaptive System		Edit Delete
5	Navigating Complexities: The Dualities of Promise and Practical Constraints		Edit Delete

Figure 4.3 Final Themes

4.4.2 Describing Meanings of Themes

The following sections articulate what each final theme means in terms of the study under investigation

4.4.2.1 Building Educators' and Learners' Self-Efficacy for a Progressive Learning Environment

This theme underscores the importance of fostering confidence and independence among both educators and learners within the Schools of Specialisation (SoS). The findings reveal that:

- Students perceive SoS as transformative, helping them build confidence, engage in academic and extracurricular activities, and develop practical skills for future careers.
- Teachers recognize that SoS fosters independent thinking and problem-solving among students. However, they face challenges adapting to specialized curricula, often feeling overwhelmed by increased workloads and a lack of structured training.
- Parents and business leaders acknowledge the benefits of SoS in preparing students for higher education and employment, yet concerns remain about the need for better communication and structured career pathways.
- Educator capacitation is crucial to this theme, as some teachers lack industry-relevant skills, and training programs are inconsistent, affecting their ability to empower students effectively.

4.4.2. 2 Pathways to Academic Excellence and Professional Growth

This theme highlights the dual role of SoS in enhancing academic performance and providing industry-relevant skills for professional development. The findings reveal:

- Students benefit from specialized curricula that integrate technical, business, and creative skills, preparing them for both higher education and the job market.
- Teachers acknowledge that the schools encourage critical thinking and problem-solving, yet balancing CAPS (Curriculum and Assessment Policy Statement) with specialized subjects remains a challenge.

- Parents see the value in SoS for broadening career opportunities, yet some misunderstand its academic rigor.
- Business community members recognize the potential of SoS in producing work-ready graduates but stress the need for stronger industry-school collaboration.
- Challenges related to assessment and structured evaluation persist, affecting the ability to measure the impact of the specialized curriculum on long-term student success.

4.4.2.3 From Local Impact to Global Influence – The Transformational Role of SoS

This theme emphasizes the Schools of Specialisation's potential to shape future global leaders by equipping students with industry-relevant skills, international exposure, and practical learning opportunities. The findings suggest:

- Students appreciate the exposure to international opportunities and hands-on learning, increasing their confidence and career prospects.
- Teachers acknowledge the transformative potential of SoS but stress the need for additional institutional support and professional development to maintain global competitiveness.
- Parents recognize the scholarship opportunities and career pathways made possible by SoS but call for more transparency in how these benefits are communicated.
- Business stakeholders value the industry-aligned training but highlight gaps in partnerships and the need for better collaboration between schools and industry experts.
- Educator capacitation plays a significant role in global influence, as ongoing training ensures that teachers remain up to date with technological and industry advancements.

4.4.2.4 Embedding Specialized Education into a Resilient and Adaptive System

This theme reflects the need for SoS to be sustainable, flexible, and responsive to industry needs while maintaining academic integrity. The findings indicate:

- Students appreciate the blend of specialized subjects and traditional academics but struggle with structural inconsistencies such as scheduling conflicts and lack of resources.
- Teachers highlight the difficulty of managing CAPS alongside specialization subjects, advocating for improved scheduling frameworks and support systems.
- Parents express concerns over financial constraints limiting access to modern resources, further affecting the quality of education.
- Business representatives stress that while specialized subjects align with industry needs, inconsistent partnerships hinder long-term impact.
- Educator development is crucial in creating an adaptive system, with training programs needing to be structured, consistent, and aligned with evolving industry demands.

4.4.2.5 Navigating Complexities: The Dualities of Promise and Practical Constraints

This theme acknowledges the balance between the aspirations of SoS and the real-world challenges in execution. The findings highlight:

- Students recognize the value of SoS in skill-building and career preparation but struggle with workload management, outdated infrastructure, and unstructured assessments.
- Teachers are committed to providing quality education but find it difficult to balance increased workloads, limited training opportunities, and insufficient resources.
- Parents appreciate the transformative impact of SoS but call for better engagement, communication, and clearer expectations regarding the academic rigor of the model.
- Businesses support the specialized approach but suggest stronger school-industry partnerships to ensure a seamless transition from education to employment.
- Structural weaknesses, including funding shortages, limited industry engagement, and misaligned curricula, create barriers to achieving the full potential of SoS.

The Schools of Specialisation offer a promising approach to bridging the gap between education and industry. While they have significantly enhanced student engagement, confidence, and career readiness, several challenges persist. Improving educator capacitation, refining assessment structures, strengthening school-industry collaboration, and ensuring sustainable funding models will enhance the long-term success and impact of the SoS model. These themes encapsulate both the opportunities and constraints within this education system, offering a roadmap for further development.

4.5 CONCLUSION

This chapter presented the findings from the analysis of stakeholder perceptions regarding the impact, strengths, weaknesses, alignment with objectives, and educator capacitation within the Schools of Specialisation (SoS). The data, collected from students, teachers, parents, and business community members, provided valuable insights into the effectiveness of the SoS model in preparing learners for academic success and industry readiness.

The findings revealed that the SoS model has been largely transformative in enhancing student engagement, confidence, and career preparedness. Students reported increased academic motivation, exposure to real-world skills, and improved career opportunities, while teachers acknowledged the benefits of fostering independent thinking and problem-solving skills. However, the analysis also identified challenges such as increased educator workload, lack of structured assessments, resource constraints, and inconsistencies in school-industry collaborations.

Five core themes emerged from the data analysis:

- Building educators' and learners' self-efficacy for a progressive learning environment – Highlighting the role of SoS in fostering confidence, independence, and empowerment among students and educators.
- Pathways to academic excellence and professional growth – Showcasing the dual role of SoS in enhancing both academic and career opportunities.
- From local impact to global influence – The transformational role of SoS – Demonstrating how SoS prepares students for global competitiveness through specialized training.

- Embedding specialized education into a resilient and adaptive system – Addressing the sustainability of SoS in balancing traditional and specialized curricula.
- Navigating complexities: The dualities of promise and practical constraints – Acknowledging the challenges in execution, including resource limitations and stakeholder expectations.

To ensure the reliability of these findings, Cohen's Kappa inter-coder reliability test yielded a strong agreement score of 0.80, reinforcing the consistency and credibility of the thematic analysis.

While the Schools of Specialisation align well with their intended objectives, improvements in assessment methods, educator capacitation, structured workload management, and stakeholder engagement are necessary to enhance their long-term impact and sustainability. Strengthening partnerships between schools and industry, securing sustainable funding, and improving communication with parents and communities will be essential for maximizing the benefits of the SoS model.

The next chapter will discuss these findings in relation to existing literature and theoretical frameworks, providing a deeper analysis of their implications and formulating recommendations for the continued enhancement of the Schools of Specialisation.

CHAPTER FIVE- DISCUSSION OF FINDINGS

5.1 INTRODUCTION

This chapter interprets the key findings of the study on the perceived impact of Schools of Specialisation (SoS) in Gauteng Province. This study was premised on the following research objectives:

- To describe how different stakeholders (students, teachers, parents, and community members) perceive the impact of these schools
- To uncover the perceived strengths and weaknesses of the Schools of Specialisation model according to stakeholders
- To ascertain how stakeholder perceptions align with the objectives of the Schools of Specialisation

The discussion links these findings to the study's research objectives and theoretical framework, highlighting their implications for policy and practice. The chapter also identifies limitations and provides recommendations for future research.

5.2 SUMMARY OF LITERATURE

This summary integrates the literature review to findings, structured according to research objectives of this study.

5.2.1 RO1: Stakeholder Perceptions of Schools of Specialisation

The findings of this study indicate that the Schools of Specialisation (SOS) are widely perceived as a valuable initiative aimed at bridging the gap between education and industry needs. Across different stakeholder groups—students, teachers, parents, and

industry partners—there is a shared recognition of the potential of SOS to enhance workforce readiness and career-focused learning. However, perspectives vary significantly, with each group identifying both strengths and challenges in the implementation of the model.

Students expressed diverse experiences regarding their time at specialized schools. Many students acknowledged the benefits of career-focused training, particularly the practical exposure, industry-specific skill development, and structured career pathways that SOS offers. This aligns with the broader argument that specialized education enhances employability by equipping students with job-ready skills Taylor (2015). However, some students also highlighted concerns regarding curriculum rigidity, particularly the limited flexibility to explore alternative academic disciplines outside their chosen specialization. In addition, students raised issues related to unequal access to resources, with some specialized schools being better equipped than others, leading to disparities in learning experiences. This reflects findings from existing research, which suggests that while specialized curricula can provide in-depth expertise, they may also restrict students' ability to pivot into different career fields later on Taylor (2015).

Teachers generally expressed support for the Schools of Specialisation model, recognizing it as a step towards modernizing education and making it more relevant to industry demands. Many educators viewed specialization as a meaningful departure from the limitations of traditional schooling, where theoretical knowledge often lacks real-world application. However, concerns were raised about insufficient professional development opportunities for teachers, particularly in relation to delivering industry-aligned content and keeping up with technological advancements. Some teachers also noted that partnerships with industries were inconsistent, making it difficult to provide students with regular, structured workplace exposure. These findings support the arguments of Badat and Sayed (2014), who emphasize that the effectiveness of specialized education largely depends on continuous teacher training and industry collaboration. Without sufficient investment in educator capacity-building, schools may struggle to deliver specialized content effectively, ultimately limiting the impact of the SOS model.

Parents generally held positive views of specialized education, particularly regarding its potential to enhance their children's employability and career readiness. Many parents

appreciated that SOS provides students with direct pathways into industries, ensuring they gain practical skills alongside academic knowledge. However, concerns about exclusivity and accessibility emerged, with some parents questioning whether the selective admission process disproportionately benefits certain groups. There was a perception that students from underprivileged backgrounds may face greater challenges in gaining access to specialized schools, particularly if admission requirements favor those with strong academic performance or prior exposure to specialized subjects. These concerns align with arguments by Sayed and Motala (2012), who caution that specialized education systems can reinforce social inequalities if access is not equitably managed.

Industry partners expressed enthusiasm for the Schools of Specialisation, particularly in relation to their potential to produce work-ready graduates with relevant technical skills. Many employers viewed SOS as a solution to the growing skills gap, noting that traditional schooling often fails to prepare students for practical workplace demands. However, industry representatives also identified challenges, particularly regarding the consistency of school-industry engagement. Some businesses reported irregular collaboration with schools, which made it difficult to establish long-term training programs, apprenticeships, or work-integrated learning opportunities. This concern is echoed in global case studies, such as Germany’s dual vocational education system, where ongoing, structured partnerships between schools and industries play a crucial role in student success (Walden & Troltsch, 2011). Without a sustained commitment from industry partners, specialized schools may struggle to provide meaningful work placements, limiting students' ability to transition smoothly into employment.

Overall, the perceptions of stakeholders reveal broad support for the Schools of Specialisation model, but also highlight key areas for improvement. While students, teachers, parents, and industry representatives acknowledge the benefits of specialized learning, challenges related to curriculum flexibility, teacher training, resource distribution, equitable access, and consistent industry collaboration must be addressed. Strengthening these areas will ensure that SOS achieves its full potential in bridging the gap between education and the labor market, providing students with both the knowledge and skills necessary for career success.

5.2.2 RO 2: Strengths and Weaknesses of Schools of Specialisation

The study highlights several notable strengths of the Schools of Specialisation (SOS), as well as significant challenges that impact their effectiveness. One of the most prominent strengths is the career-oriented curriculum, which enhances student engagement, motivation, and preparedness for the workforce. By aligning education with industry needs, SOS ensures that graduates possess practical, job-relevant skills, making them more competitive in the labor market. This structured approach to career-focused learning helps bridge the gap between education and employment, providing students with a clear sense of direction and real-world application of their knowledge.

Another key strength is the collaborative relationships that some Schools of Specialisation have established with private-sector organizations and industry partners. These partnerships provide students with valuable hands-on experience, mentorship opportunities, and exposure to professional environments. Internships and industry-linked projects enable learners to apply theoretical knowledge in practical settings, which enhances their confidence and readiness to transition into the workforce. In schools where these collaborations are strong, students benefit from modernized learning environments, access to cutting-edge technology, and real-world training, reinforcing the importance of sustained engagement between educational institutions and industries.

Despite these advantages, several challenges and limitations persist. A major issue is the uneven distribution of resources among different Schools of Specialisation, leading to disparities in student experiences and learning outcomes. Schools with strong industry connections and financial support tend to have superior infrastructure, better-equipped laboratories, and access to updated learning materials. In contrast, institutions that lack consistent funding and partnerships often struggle with outdated resources, limited technological integration, and fewer opportunities for industry exposure. This imbalance creates inequities in the quality of education, where students attending well-funded specialized schools have greater career prospects than those in under-resourced institutions. These findings align with research by Taylor (2015), which underscores resource disparities as a persistent challenge within South Africa's education system, affecting both mainstream and specialized schooling.

Another significant challenge is the rigidity of specialized curricula, which can sometimes limit students' academic and career mobility. While specialization provides in-depth training in specific fields, some students report feeling constrained by the narrow focus of their education, particularly if they develop interests outside their chosen discipline. In cases where learners wish to pursue a different career path later, transitioning out of their specialization can be difficult and require additional coursework or training. This issue contrasts with international models, such as Finland's education system, where vocational training is integrated with broader academic subjects, allowing students to maintain greater flexibility in their career choices (Sahlberg, 2011). By incorporating a more interdisciplinary approach, specialized schools could offer students greater adaptability, ensuring that they are not restricted to a single career trajectory from an early stage.

The combination of limited flexibility, resource disparities, and inconsistent industry partnerships presents barriers to the long-term success of the SOS model. Addressing these challenges will require policy interventions, increased investment in infrastructure, and the development of more adaptable curricula. Ensuring that all specialized schools have equitable access to funding, resources, and industry collaborations will be essential in maximizing the potential of specialized education and creating equal opportunities for all students, regardless of their background or location.

5.2.3 RO 3: Alignment of Schools of Specialisation with Their Intended Objectives

The study finds that while SoS largely align with their intended objectives, gaps remain in implementation. The schools are successful in fostering industry-related skills and career readiness, but concerns about accessibility and inclusivity persist. The study highlights a disconnect between policy aspirations and real-world execution, where not all students have equal access to quality specialized education.

The findings suggest that while the objectives of SoS are well-intentioned, the execution requires greater oversight and standardization to ensure equitable access. The alignment issue is further exacerbated by the lack of long-term tracking mechanisms to measure the career progression of graduates. Similar concerns have been raised in studies on technical and vocational education in other developing contexts, such as Nigeria and Kenya (Okebukola, 2017; Wainaina, 2020).

5.2.3 RO3: Alignment of SOS to Schools Objectives

The findings of this study reveal both strong alignment and critical gaps between the objectives of Schools of Specialisation (SOS) and the expectations of students, teachers, parents, industry partners, and community stakeholders. While the overarching goal of bridging education with industry needs is widely supported, variations in stakeholder perceptions highlight areas where adjustments are needed to ensure that specialized education remains relevant, flexible, and accessible to all.

Alignment of School Goals and Objectives with Student Experiences

The research findings confirm that students generally recognize the value of specialized curricula, as these programs offer structured career pathways and industry-specific training. However, many students raised concerns about the rigid nature of the curriculum, which limits their ability to explore different subjects if their career interests shift over time. These concerns mirror the findings of Sayed and Motala (2012), who argue that curriculum rigidity can restrict student exploration and limit adaptability in a rapidly changing job market. While some learners expressed satisfaction with the direct link between education and employment opportunities, others indicated that limited exposure to broader disciplines makes it difficult for them to pivot to different career paths later. This supports Taylor (2017), who emphasize that ongoing curriculum evaluation is necessary to maintain student engagement and ensure relevance. The study suggests that regular curriculum review processes and stakeholder consultations could improve alignment between school objectives and student aspirations, making specialized education more adaptable and inclusive.

Alignment Between Specialized Education and Career Goals

A central objective of the Schools of Specialisation is to prepare students for industry-related careers, ensuring that their education is aligned with labor market demands. The study found that graduates from specialized schools generally possess strong technical skills, supporting international research that emphasizes the importance of industry-integrated education models (Walden and Troltsch, 2011). However, students and

educators noted that while technical training is strong, gaps remain in entrepreneurial skills, business acumen, and soft skills development. These findings echo those of Badat and Sayed (2014), who argue that specialized education should not only focus on technical proficiency but also equip students with broader competencies required for employability. The study also highlights inconsistencies in industry partnerships, where some schools benefit from strong collaborations with private-sector organizations, while others struggle to secure sustained industry engagement. Addressing this issue requires more structured and long-term collaboration between schools and industry partners, ensuring that all students have access to high-quality work-integrated learning experiences.

Enhancing the Alignment Between Schools' Objectives and Student Needs

To ensure that specialized education remains relevant, Schools of Specialisation must continuously adapt to students' evolving expectations and industry demands. The research findings indicate that students perform better and are more engaged when they have access to mentorship programs, career counseling, and real-world learning opportunities. This supports the recommendations of Sahlberg (2011), who highlights the importance of strategic partnerships with policymakers, industry leaders, and education specialists in maintaining education relevance. Students in schools that provide career fairs, workplace visits, and industry-specific workshops reported greater confidence in their career choices, aligning with Sayed and Motala (2012), who advocate for expanding student support structures to bridge the gap between education and employment. However, the study found that some schools lack structured career guidance programs, leaving students uncertain about their post-school options. Greater investment in career readiness initiatives and more flexible curriculum pathways would help ensure that specialized education is responsive to the diverse aspirations of students beyond technical disciplines.

Teacher Alignment with Schools' Objectives

Teachers play a critical role in ensuring that specialized education remains aligned with the evolving needs of industries and students. The study revealed that while most

teachers support the specialization model, many feel underprepared to deliver specialized curricula effectively due to limited professional development opportunities. This aligns with Deng and Gopinathan (2016), who argue that continuous teacher training is essential for effective specialized education delivery. Furthermore, the research highlights that some teachers lack exposure to industry trends, making it difficult for them to integrate real-world applications into their lessons. This supports the findings of Taylor (2015), who note that without ongoing professional development, specialized education models risk becoming outdated. Strengthening teacher-industry engagement through externships, industry workshops, and collaborative teaching approaches would help ensure that educators remain current with industry advancements and can effectively translate those insights into classroom learning.

Parental Expectations and the Objectives of Schools of Specialisation

The study found that parents generally support specialized education, particularly due to its structured career pathways and emphasis on employability. However, some parents expressed concerns about limited communication between schools and families, making it difficult for them to fully understand the career prospects available to their children. This aligns with Mestry (2022), who found that parental satisfaction with specialized education increases when schools effectively communicate their objectives and intended outcomes. Additionally, some parents in the study felt disconnected from school decision-making processes, limiting their ability to support their children's educational and career choices. Expanding parental involvement through regular consultations, workshops, and school-community forums would strengthen the collaboration between families and specialized schools, ultimately enhancing student outcomes and career preparedness.

Community Engagement and School Objectives

The study highlights that community stakeholders, including local businesses and municipal authorities, play a crucial role in the success of specialized schools. Literature suggests that when communities are actively engaged in school activities, students benefit from stronger industry connections and mentorship opportunities (Sahlberg, 2011). However, the research findings indicate that community engagement is inconsistent, with some Schools of Specialisation struggling to secure long-term

partnerships with local businesses and industries. This aligns with the concerns raised by Badat and Sayed (2014), who argue that without structured community collaboration, specialized education initiatives may lack sustainability. The study found that schools with strong community partnerships were better positioned to offer students industry-relevant learning experiences, while those without such partnerships struggled to provide consistent work-integrated learning opportunities. Strengthening relationships with local business leaders, municipal authorities, and community organizations would help bridge the gap between education and the broader socio-economic environment, ensuring that specialized schools remain well-integrated into their local economies.

5.3 CONTRIBUTION OF THE STUDY FIELD OF EDUCATION

This study makes several important contributions to the field of education, particularly in the areas of specialized education, industry-aligned curricula, and equitable access to career-focused learning opportunities. By examining the Schools of Specialisation (SOS) model, the research provides valuable insights into the effectiveness, challenges, and areas for improvement in aligning education with labor market demands.

One of the key contributions of this study is its empirical analysis of stakeholder perceptions, offering a holistic understanding of how students, educators, parents, industry partners, and communities engage with specialized schooling. Previous research has largely focused on either the theoretical foundations of specialized education or labor market outcomes, whereas this study bridges the gap by assessing real-world experiences and challenges faced by different stakeholders. This multidimensional approach strengthens the practical applicability of the study's findings in informing policy and practice.

The study also contributes to the growing discourse on curriculum flexibility in vocational and specialized education. While existing literature highlights the benefits of career-focused learning, this study identifies curriculum rigidity as a key challenge that may limit students' ability to pivot into alternative career paths. By emphasizing the need for interdisciplinary learning and adaptability, the study adds to discussions on how specialized education can evolve to meet students' changing aspirations and industry trends.

Another significant contribution is the examination of industry partnerships in education. The findings reveal that while some specialized schools have strong collaborations with businesses, others struggle to secure sustained engagement, leading to disparities in student experiences. This study highlights the need for structured, long-term school-industry partnerships, contributing to policy discussions on how governments and private sectors can work together to create equitable learning opportunities. The study also underscores the importance of integrating soft skills, entrepreneurship, and business acumen into specialized curricula, ensuring that students are not only technically competent but also well-rounded professionals.

Furthermore, the research expands on equity and access concerns, showing that resource disparities among specialized schools can exacerbate social inequalities. While specialized education aims to enhance employability, this study warns that without equitable distribution of resources and inclusive admission policies, SOS may reinforce existing educational and economic divides. These findings contribute to global discussions on how specialized education can be implemented in a way that promotes both excellence and inclusivity.

Finally, the study provides practical recommendations for improving specialized education, including teacher professional development, parental engagement strategies, and community involvement. By identifying the gaps in educator preparedness and the need for ongoing training, the study supports the argument that specialized education cannot succeed without well-equipped teachers who understand industry demands. Additionally, the study highlights the role of parents and local communities in supporting specialized schools, offering a framework for stronger collaboration between educational institutions and external stakeholders.

Overall, this study contributes to the field of education by offering new insights into specialized schooling models, their impact on student career readiness, and the structural challenges that need to be addressed for long-term success. It provides a research-based foundation for policymakers, educators, and industry leaders to enhance the effectiveness of specialized education and ensure that it meets both economic demands and individual student needs.

5.4 TRUSTWORTHINESS OF THE STUDY

Trustworthiness in qualitative research ensures the credibility, transferability, dependability, and confirmability of findings. This study adhered to Guba and Lincoln's (1984) four criteria for ensuring trustworthiness, integrating methodological rigor to ensure that the findings are reliable and meaningful.

Trustworthiness in qualitative research ensures the credibility, transferability, dependability, and confirmability of findings. This study adhered to Guba and Lincoln's (1984) four criteria for ensuring trustworthiness.

5.4.1 Credibility

Credibility refers to the accuracy and truthfulness of the findings. To enhance credibility, the study employed member checking, where participants were given the opportunity to review and validate the transcriptions and interpretations of their responses. Furthermore, triangulation was used by comparing insights from different stakeholder groups (students, educators, parents, and industry partners) to ensure multiple perspectives were considered. Peer debriefing was also conducted to verify that interpretations were aligned with the data.

Additionally, Cohen's Kappa was applied as an inter-coder reliability measure to assess consistency in coding and thematic categorization. Cohen's Kappa is widely recognized for addressing agreement beyond chance (McHugh, 2012). A score of 0.80 in this study suggests substantial agreement among coders (Landis & Koch, 1977), reinforcing the dependability of the themes that emerged. According to O'Connor and Joffe (2020), achieving a high Cohen's Kappa score enhances the validity of qualitative research by minimizing subjective bias in thematic development. The application of this statistical measure adds further rigor to the credibility of the findings.

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5.4.2 Transferability

Transferability relates to how applicable the findings are to other contexts. This study provides a thick description of the SoS model, including detailed accounts of stakeholder perceptions, challenges, and strengths. By providing sufficient contextual details, future researchers and policymakers can determine whether the findings are applicable to similar educational settings within or outside South Africa.

5.4.3 Dependability

Dependability ensures that the findings are consistent and could be replicated under similar conditions. To maintain dependability, an audit trail was kept, documenting all research processes, including data collection, coding, and thematic analysis. The use of COSTAQDA software for qualitative analysis further enhanced the consistency and transparency of the coding process.

To further ensure dependability, inter-coder reliability testing using Cohen's Kappa was incorporated. As recommended by Lombard, Snyder-Duch, and Bracken (2022), achieving a Kappa score above 0.75 indicates strong agreement between raters, which this study successfully attained. This strengthens the confidence in the coding framework and thematic analysis applied, ensuring methodological reliability.

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5.4.4 Confirmability

Confirmability ensures that the research findings are shaped by participants' responses rather than researcher bias. To achieve this, reflexivity was practiced, where the researcher critically examined their own influence on data collection and interpretation. An independent inter-coder reliability check using Cohen's Kappa was performed, yielding a score of 0.80, indicating substantial agreement between coders in theme generation.

This study aligns with the work of Miles and Huberman (2014), who emphasize the importance of confirmability through transparent coding frameworks and independent verification. The integration of Cohen's Kappa further mitigates subjective influence,

ensuring that themes are reflective of participant narratives rather than researcher assumptions. By applying these strategies, this study maintains a high standard of confirmability, ensuring its findings are trustworthy and replicable.

Confirmability ensures that the research findings are shaped by participants' responses rather than researcher bias. To achieve this, reflexivity was practiced, where the researcher critically examined their own influence on data collection and interpretation. An independent inter-coder reliability check using Cohen's Kappa was performed, yielding a score of 0.80, indicating substantial agreement between coders in theme generation.

5.5 Limitations of the Study

Several limitations should be acknowledged. First, the study's qualitative approach, while rich in detail, limits the generalizability of the findings. A more extensive quantitative analysis could complement these insights. Second, the study focuses primarily on stakeholder perceptions, which may not fully capture the long-term impact of SoS on employment and higher education outcomes. Finally, the study is geographically limited to Gauteng Province, and findings may not be fully representative of other regions in South Africa.

5.7 RECOMMENDATIONS

While this study provides valuable insights into the effectiveness and challenges of Schools of Specialisation (SOS), several areas require further investigation to deepen the understanding of specialized education models and their long-term impact. Future research should explore the following key areas:

5.7.1 Long-term career trajectories of graduates from Schools of Specialisation.

One significant area for future research is the long-term career trajectories of graduates from Schools of Specialisation. While this study assesses students' perceptions of career readiness, there is limited empirical data on how SOS alumni perform in the job market over time. Future studies could track employment rates, job satisfaction, and career mobility among graduates to determine whether specialized schooling leads to sustainable employment and career growth. Such research would help assess whether

the skills acquired in specialized schools continue to be relevant in an evolving job market.

5.7.2 Impact of curriculum flexibility on student success and adaptability

Another important area for investigation is the impact of curriculum flexibility on student success and adaptability. This study highlights concerns regarding rigidity in specialized curricula, but further research is needed to examine how greater flexibility—such as interdisciplinary learning or modular course structures—affects student engagement and long-term career satisfaction. Comparative studies between countries with more adaptable specialized education models, such as Finland or Germany, and the South African system could provide valuable insights into best practices for balancing specialization with broader academic exposure.

5.7.3 Effectiveness of industry partnerships and work-integrated learning programs in SOS.

Future research should also examine the effectiveness of industry partnerships and work-integrated learning programs in SOS. While this study identifies inconsistencies in industry engagement, further research is needed to determine the specific conditions that lead to successful school-industry collaborations. Investigating how different types of industry involvement—such as apprenticeships, mentorships, and collaborative research projects—contribute to student skill development and employability would help refine strategies for strengthening these partnerships. Additionally, research could explore barriers to industry engagement, particularly in under-resourced schools, and propose solutions to enhance equitable access to industry-linked learning experiences.

5.7.4 The role of teacher training and professional development in specialized education

Another area requiring further exploration is the role of teacher training and professional development in specialized education. This study reveals that many teachers feel underprepared to deliver industry-aligned curricula, yet limited research has been conducted on effective professional development models for specialized school educators. Future studies could investigate how continuous teacher training programs, industry externships, and collaborative teaching methods influence teacher effectiveness and student outcomes. Understanding the specific support systems that help teachers stay updated with industry trends would be critical in improving the overall quality of specialized education.

5.7.5 Socio-economic impact of Schools of Specialisation on marginalized communities

Furthermore, future research should examine the socio-economic impact of Schools of Specialisation on marginalized communities. While SOS aims to improve employability and economic mobility, there is a need for research on whether these schools are truly accessible to students from disadvantaged backgrounds. Studies could investigate admission policies, financial barriers, and resource disparities to determine whether specialized education is reinforcing or reducing educational inequalities. Evaluating the role of government funding, scholarship programs, and community support in making specialized education more inclusive would provide valuable policy recommendations.

5.7.6 Parental and community engagement in the success of Schools of Specialisation

Lastly, research should focus on parental and community engagement in the success of Schools of Specialisation. While this study identifies gaps in parental understanding of specialized education, further research is needed to explore effective communication strategies between schools and families. Understanding how increased parental involvement influences student motivation, career decision-making, and overall school performance could inform policies on strengthening school-community partnerships.

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APPENDICES

1. Informed Consent Request

Appendix A: LETTER TO RESPONDENTS

Dear Respondent

REQUEST FOR PARTICIPATION IN RESEARCH STUDY

My name is Adv. Alison Bengtson, a Master's student at University of the Witwatersrand's School of Education. As part of the completion of my studies, I need to conduct a research, focusing on perceived impact of Schools of Specialisation in Gauteng Province.

All your answers will be treated as confidential and you will not be identified in any of the research reports emanating from this research.

Your participation in this study is very important to me. You may however choose not to participate, and you may also withdraw from the study at any time without any negative consequences.

I therefore request that you participate in the research study through the semi-structured interview that would take between 35 to 45 minutes. All the information collected will be used for the purposes of this research only and will not be shared with other parties and therefore it will be kept strictly confidential. Your identity will be kept anonymous.

You are kindly requested to be frank with your response. Please note that this is a voluntary exercise and that you may opt out at any time during the process should you decide to do so. You may sign this document or simply cut and paste the consent statement below and send back to me by email, indicating you consent to participate in this study.

Yours sincerely

_____
Adv. Alison Bengtson

I, _____ herewith give my consent to participate in the study. I have read the letter and understand my rights with regard to participating in the research.

_____ _____
Respondents' signature Date