Curriculum leadership practices of senior management in developing a 'Thinking School': A case study of a Western Cape primary school

By

Chadley William Van Wyk

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Supervisors:
Doctor Karen Collett & Professor Lena Green
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DECLARATION

I, Chadley William Van Wyk, declare that this thesis is my own work, that it has not been submitted for any degree or examination in any other university and that all the sources I have used or quoted have been indicated and acknowledged by complete references.

I have submitted my thesis to Turnitin and I have checked for similarity. Where there has been similarity it has been my own work from my honours degree and the submission of my proposal. My supervisors are satisfied with my Turnitin report.

Signed November 2022

DEDICATION

I dedicate this thesis to my beloved parents, Pamela and William Van Wyk. I would also like to dedicate this thesis to my soon to be wife Charndré Carolissen who has encouraged and believed in me throughout this journey. I want to thank them for all they have done for me and the sacrifices they made for me. I would also like to dedicate this thesis to my supervisors Professor Green and Dr. Collett for having planted the seed which led me on pursuing this journey. I am grateful for GOD's mercy he has bestowed upon my life, for I can do all things through Christ who strengthens me.

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I would also like to acknowledge the Thinking School for being open to this research and a huge vote of thanks to the principal and the staff for allowing me time in their personal space. I wish to thank them wholeheartedly for their investment in this study which will set the tone for similar research. I salute you in your willingness to shape the future lives of those who have been entrusted in your care.

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LETTER FROM THE EDITOR, ROB MEINTJES

10 NOVEMBER 2022

TO WHOM IT MAY CONCERN

COMMENTS ON EDITING OF A CASE STUDY BY CHADLEY VAN WYK (MASTER'S STUDENT NO: 3264020 AT THE UNIVERSITY OF THE WESTERN CAPE) ON THE ROLE OF CURRICULUM LEADERS AT A THINKING SCHOOL

I have enjoyed helping Chadley Van Wyk with the editing of six chapters in pursuit of his thesis on the above mentioned case study, which he started sending me in February 2022. I found the contents to be interesting and instructive.

From the outset Chadley's chapters were clearly written. I pointed out the few minor exceptions with the help of Word's Track Changes feature. The clarity of his writing made my editing task easier.

I have not changed or added anything to the content or context of his thesis. My edits focused on removing repetition, improving the structure of some sentences, and correcting minor style issues. Where necessary I also corrected spelling and grammar.

I streamlined some paragraphs by eliminating repetition of concepts that had already been introduced earlier in the related section. I did so to improve the sentence flow and thus make the narrative more reader friendly.

I also converted some of the longer in-text quotations to stand-alone, indented paragraphs (without quotation marks).

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ABSTRACT

This research study explored the curriculum leadership practices by senior management which support the development of a selected primary school as Thinking School. A review of the literature shows that many learners in South African primary schools find reasoning and making inferences difficult. There is a need to identify what curriculum leaders do to enable teachers to teach in ways that develop thinking. A school which is an accredited Thinking School provided the site to explore best practices in enhancing thinking. This research is located within an interpretivist paradigm using a qualitative approach and a case study design. Three staff members in leadership positions and a focus group of four teachers from this primary school were purposively selected to participate in the study. Data collection took place through an online digital questionnaire, online focus group interviews, semi-structured individual interviews and documentary analysis. Data was thematically analysed using a conceptual framework relating Thinking Schools criteria to curriculum leadership. Ethical considerations of informed consent, trustworthiness, respect for human dignity and confidentiality were adhered to. The findings confirm that the following curriculum leadership roles are taken by leaders in this Thinking School: the promotion of the Thinking School philosophy and values; encouragement of the use of cognitive tools in collaborative learning; sharing with staff decision making about which thinking methodology should be implemented and engagement of staff in training that focuses on cognitive education. Furthermore, the leaders used Thinking School strategies and tools in meetings. Curriculum leaders also played a prominent active role in planning how to consciously integrate the Thinking School values, tools and strategies into the national CAPS. Leaders also encouraged teachers to use Thinking Maps and Habits of Mind to promote flexible thinking in the classroom and the staffroom. They also ensured monitoring of the teaching and assessment of thinking through the Thinking Schools committee (Drive Team). A curriculum leadership role that was obvious (noticeable) in this school was the active "hands-on" role of leaders in creating resources to make thinking visible and the making of resources to support the use of Thinking School tools and strategies; as well as their role in the unpacking and modelling of thinking tools in classrooms.

List of Acronyms

SGB: School Governing Body

WCED: Western Cape Education Department

PMI: Plus Minus Interesting

HOD: Head of Department

CAPS: Curriculum Assessment Policy Statement

IQMS: Integrated Quality Management System

ICT: Information and Communications Technology

ESU: Educational Service Unit

PTA: Parent Teacher Association

TTCT: Paul Torrance Tests of Creative Thinking

Key Words

a. Cognitive education

b. Thinking School

c. Learning Organisation

d. Curriculum Leadership

e. Transformational Curriculum Leadership

f. School Management Team

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Chapter 1

Introduction to the Study

1.1 Introduction

This study focuses on the role of curriculum leaders in Thinking Schools. Chapter one, the introduction, provides the context for this study. It explains the background, rationale, and problem statement. The research aims and objectives are also illustrated, as well as the research questions. Related literature is reviewed and the conceptual framework is explained. Furthermore, the research approach is summarised and key terms are defined. The chapter concludes with the thesis layout and a brief outline of the chapters to follow.

1.2 Background and Rationale

Twenty-seven years after the end of apartheid, South Africa remains both a First World country and a Third World country, where most white people enjoy First World riches and the majority of blacks and coloureds are left with nothing. Apartheid created inequality and enlarged the gap between poor and rich. Hoogeveen and Özler (2005, p. 2) and Hundenborn, Leibbrandt and Woolard (2016) state:

> The Gini coefficient of expenditures was 0.56, making South Africa one of the most unequal countries in the world. The country also inherited vast inequalities in education, health, and basic infrastructure, such as access to safe water, sanitation, and housing. For instance, while only a quarter of Africans had access to piped water in their houses, Asians and whites had universal access.

The fight against apartheid by various individuals and groups brought hope: according to Soudien (2007, p. 183):

> The advent of democracy in South Africa in 1994 brought an end to one of the great struggles of the second part of the twentieth century, [and] with the coming of democracy also came a sense of hope for its people and for the world.

Macha and Kadakia (2017, paragraph 5) explain:

> Today, South Africa invests a considerable amount in education – as it has [done] ever since the end of apartheid. In 2013, for instance, 19.7 percent of the country's total budget went to education – a relatively high figure by international standards. However, the ripple effect of the discriminatory education system continues, not least on the quality of instruction available from a generation of teachers, themselves educated by a sub-par system.

South Africa is a diverse country, rich in many cultural backgrounds and has ample untapped potential in mental and social capital, but Green (2014, p. 1) states:

> Most schools in South Africa, twenty years after the demise of apartheid, are not yet contexts from which young people emerge as effective, critical and creative thinkers, well prepared for life in the twenty-first century.

This study was prompted by concerns expressed about the quality of education in South Africa by leading scholars such as Jansen (2019, 2013) and Chisholm (2012, 2004). The Department of Basic Education itself admits "there is considerable evidence that quality of education in South African schools is worryingly low relative to what South Africa spends on schooling" (DoE, 2003b, p. 101). The national curriculum aims to develop learners as critical and creative thinkers but, if the Progress in International Reading and Literacy Study (PIRLS) data of 2016 (Howie, Combrinck, Roux, Tshele, Mokoena, & Palane, 2017) are to be believed, learners in South African primary schools are seldom capable of reasoning and making inferences. According to Howie et al. (2017, p. 4), "78 percent of South African Grade 4 children were not able to reach the lowest benchmark of a test involving reasoning compared to only four per cent internationally".

The study by Howie et al. (2017) reports on a study that assessed 12 810 Grade 4 learners in a selection of 293 schools. Findings from this study show that South Africa scored the lowest points and that learners did not even reach the average in a reading and literacy context (Howie et al., 2017, p. 2). Similarly, the Trends in International Mathematics and Science Study (TIMSS) by Reddy (2018, paragraphs 1–9) assesses the quality of mathematics and science education on an international scale. The study found that:

> South African grade 5–9 achievement improved from "very low" to "low", but is still one of the lower-performing countries. The outcome from our participation in TIMSS is that a scientifically rigorous trend methodology shows that the educational system is improving. However, the pace of this change is too slow.

Curriculum leaders have a key role to play when it comes to focussing on teaching and developing its quality. They need to assess and develop planning and organising activities with a sound execution plan. They also need to embrace new challenges. In the case of COVID-19, curriculum leaders are expected to accelerate educational programmes. They need to respond quickly to the crisis, focus on the foundational skills, and temporarily suspend certain subjects (Hoadley, 2020).

Handler (2010, pp. 34–35) asserts the role of curriculum leaders:

> Today's curriculum leaders must have a substantial and current knowledge of state and national educational policy development, ordering of content, planning activities and assessments, or matching content to state standards.

Curriculum leaders need to ensure they understand learning experiences, how to set their direction, and how to shape and monitor those experiences. Much curriculum leadership in schools is focussed on learner performances and results (Munday, 2018; Perryman & Calvert,

2020). Jeffrey and Troman (2009, p. 2) assert that "in the educational field the performativity culture is being used by the government to raise standards in schools [and] to raise the achievement of the mass of the population". A growing body of South African literature supports the view that effective leadership is crucial if schools are to significantly improve learner performances (Bush, Joubert, Kiggundu & Van Rooyen, 2010; Christie, 2010; as cited in Mestry, 2017). It can thus be inferred that learner performances take preference over development of thinking.

Curriculum leaders should always strive for a balance between vision and results, seeing that the status quo is focused on betterment of results and intervention models. "Their role should be evolved from manager to instructional leader to facilitator-leader of the school learning community" (Mestry, 2017, p. 261). Curriculum leaders must understand the educational purposes of school; what experiences are likely to serve those purposes; and how to effectively organise and evaluate those experiences (Tyler, 2013).

School management teams should cultivate their schools as learning organisations according to the South African Standard for Principalship (SASP) (DBE, RSA, 2016). "The principal is required to lead the learners and ensure that the school is a professional learning community." (SASP, DBE, 2015, p. 11). A professional learning community can help schools in areas of expertise and help learners identify the attributes needed for certain careers (Brown, Horn & King, 2018). "The goal is to establish professional learning communities that can engage in reasoned dialogic enquiry about teaching and learning at their schools." (Green & Collett, 2021, p. 2). Green and Collett (2021) argue that school leaders need to influence and support the teaching of thinking and explore how cognitive education can fit into the Curriculum and Assessment Policy Statement (CAPS). They also need to instill a belief in the rest of the staff to execute thinking processes in the classroom and the whole school.

School leaders form and mould the necessary conditions for a good-quality teaching environment, and this has an impact on student learning. "School leaders are central to the success of any initiative to teach thinking in schools, but little is known about current practices around the teaching of thinking in South African schools, of which the majority are under-resourced." (Green & Collett, 2021, p. 2). Leithwood (1995) argues that through cognitive perspectives (applying the understanding of concepts and information) we adjust our concept of the knowledge base, which is essential to implementing effective and efficient leadership.

Times are changing fast, and learners today are born in a technological era: Kay and Greenhill (2011) argue as follows:

> We are facing economic uncertainty unlike anything we have seen in generations. The threats to our education system seem pretty clear – and the biggest challenge is not funding. The challenge rather is how our education system will produce citizens who can succeed (p. 41).

Schools should prepare students for the twenty-first century: there is a need to think in deep and complex ways to solve problems in the new technological era, which is the Fourth Industrial Revolution.

> School curricula, both local and international, emphasise the importance of developing learners as critical and creative twenty-first century thinkers, who will become resourceful members of society able to contribute to the economy (Collett & Green, 2017, p. 7).

The Thinking Schools movement has emerged in the past 19 years as a response to theories that argue in favour of "learned intelligence" (Perkins & Grotzer, 1997) and cognitive education. In the early twenty-first century Bob Burden, who was employed at the University of Exeter's Cognitive Education Development Unit (CEDU), was inspired by the work of New Zealander Gill Hubble and proposed a set of criteria for the development of "Thinking Schools" (described in Appendix N).

In 2017 the University of Exeter introduced optional accreditation for primary and secondary schools (Accreditation, 2017) to demonstrate that they met certain criteria. Identity as a "Thinking School" is not, however, dependent on this accolade. An institution may be a "Thinking School" without formal recognition. The choice to take the accreditation route usually involves a journey of several years and is simply an indicator of the school's commitment. All Thinking Schools focus on some form of cognitive education as a means of enabling deep-level learning.

According to Burden (2006) a Thinking School can be defined as a community of members engaged in education with a mutual interest in – and commitment to – thinking critically and creatively. Members of the community also share a common thinking vocabulary. Cognitive education can be described as "the active and intentional teaching of thinking skills and metacognitive awareness" (Edries, 2012, p. 10). A Thinking School uses cognitive educational strategies to teach thinking and its toolbox is the common language used throughout the institution. Cognitive education is seen as a means to an end, where the end is to enable learners to use thinking tools independently in order to think more deeply and learn more successfully. There are a few Thinking Schools in South Africa. The concept is still new, however, there is growth. The movement is supported by Thinking Schools South Africa, which is a registered non-governmental organisation (NGO) and public benefit organisation (PBO). The theoretical underpinning of the Thinking School approach and the effectiveness of this approach will be discussed and explained in Chapter Two.

Certain factors are common to schools where teachers are committed to a thinking skills programme. Support of the head teacher is most important, as well as the involvement of a specific class teacher who shares the head's vision, and the commitment to the programme of at least one other teacher (Adey, quoted in McGuiness, 1999). Costa and Kallick (2014, p. 91) state that "cooperative humans realise that all of us together are more powerful, intellectually and/or physically, than any one individual. Problem solving has become so complex that no one can do it alone." Fisher (1999) reiterates that "teachers need not only training but also support in delivering the curriculum in the classroom" (p. 61). There is evidence that

individuals can learn to think more effectively (Feuerstein, Klein & Tannenbaum, 1991; Howie, 2019).

The benefits of teaching thinking skills have been well documented and researched, as will be explained briefly in Chapter Two (Johnson & Siegel, 2010; Fisher, 1999). Thus my focus will be on the curriculum leadership practices of school leaders, deputy principals and departmental heads (HOD) in Thinking Schools. My focus will be on how they assist or enable the teachers and the schools in general to become successful Thinking Schools.

In order to develop and improve a learning culture at a school requires an effective policy programme (Fullan, 2003). Related studies by Moolla (2014) and Murtaza (2010) show that the principal and school management team (SMT) members ought likewise to impart the obligation to the rest of the staff and, furthermore, to their locality. School leaders and their curriculum need to empower and uphold the school's ideals and its vision: to do this they need a *whole school* approach.

Moolla (2014, p. 78) writes that "school leaders who fail to understand that developing as a Thinking School is at the heart of the academic project contribute significantly to stagnation and even dysfunctionality in schools". In order to function optimally, schools need to break the stagnation and:

> for this to be possible teachers need opportunities to acquire the necessary knowledge and to develop the skills to mediate thinking, ideally within professional learning communities supported by informed school leadership (Green & Collett, 2021, p. 3).

Through professional learning communities, committees, school governing bodies and SMTs curriculum leaders can flourish and reach all the relevant role players at the school to enable the teaching of thinking and deep-level learning (Green & Collett, 2021).

I have searched unsuccessfully for research that investigates in detail the role of curriculum leaders in facilitating development of "Thinking Schools". There appears to be little or no such detailed research. The related literature makes insufficient connection between cognitive education and curriculum leadership. This shortcoming demonstrates the need for my study. Literature on how Thinking Schools operate and function – and why cognitive education has been employed by leaders at various schools – is limited. Investigation into curriculum leadership practices at Thinking Schools is needed to inform these practices in the day-to-day functioning of conventional schools. Exploration of the Thinking School movement shows promise as a practical way to work towards both specified curriculum goals (critical and creative thinking) and school development goals (professional learning communities).

From a personal perspective, my interest in this research focus stems from my studies for a postgraduate certificate in education (PGCE) in 2015, during which our class was introduced to the topics of Thinking Schools and thinking classrooms in the educational psychology module. The topic was not discussed in depth, but it had me thinking. Later on during the first year of my honours (2016) I came across a new topic called critical thinking, which formed part of the metatheory module. This really opened my way of thinking and looking at things.

The paradigm of critical thinking led me to view the world through a different lens, listening to the opinions and ideas of others; giving a voice to your inner self; trying to rid the world of a follow-the-leader mentality. If you do not learn to think for yourself then others will think for you, and that is how we become dependent on others who do not always have our best interests at heart.

I realised that in the education sector we put the bare minimum into thinking effectively and critically. Therefore, in my second year of honours (2017) – after careful deliberation with my supervisor – I decided to explore the teaching of thinking at my public school. Although I found that some staff members do actively teach learners to think critically, it also became clear to me that curriculum leadership practices are lacking: there is no collective goal to improve thinking. In addition, staff cohesion and collective understanding about teaching thinking were scarce.

My motivation for this study is to extend the findings of my honours degree. I want to further knowledge in this area by studying institutions that have been identified as Thinking Schools. Leadership plays a vital role in making the school effective and enabling. Quality leadership practices enable school staff to develop their classrooms as thinking and problem-solving environments. My research focus in this study will be to explore the role of curriculum leadership in an institution that identifies itself as a Thinking School.

This study may identify key curriculum leadership practices that could be used by the leadership at my school and others to actively promote the teaching of thinking.

1.3 Problem Statement

In South Africa there is a dire need for development of learners as thinkers and active role players in society (Hoadley, 2017). The content and subject matter in CAPS needs to be taught in a way that reflects our country's situation and needs: the pedagogy has to be bettered. O'Donoghue (2013) explains:

> The CAPS curriculum encourages teaching for the mediated acquisition of knowledge, a more independent enquiry to find out more for learning-by-doing: this shapes the competence for living in a changing world (p. 6).

These are seen as essential elements in CAPS and they serve as a guideline for principals and SMT members in creating active participation in class and enabling critical thinking. Leadership needs to be more involved and informed in order to support teachers and create an ethos of thinking across the school community.

Internationally the need to develop the critical and creative thinking ability of learners is evident (Bryant, 2017; Leen, Hong, Kwan & Ying, 2014). "The government in Singapore is aware of the need to nurture critical thinkers for the new economy," asserts Tan (2006, p. 1). Teo Chee Hean, Singapore's former minister of education, has stated that students in Singapore who arrive in the job/career world must be capable of reasoning and reflecting critically in order to prosper and flourish in the twenty-first century's economic context (Teo, 2000).

Curriculum leadership needs to be prioritised more by the school's leadership as it can provide opportunities to develop and empower future leaders; to effect continuous improvement; set direction; and establish goals. According to Masten (2010) curriculum leadership can maximise efforts by focusing on the active teaching of thinking, as this can develop quality time and create schedules that provide for creative thinking and reflection. According to Burden (2008) there are many ways of becoming a "Thinking School": the problem is to introduce new practices in a way that engages the staff and learners.

New ideas are introduced in schools but there is often a lack of interest and ability from school leaders to help the ideas develop.

> The criteria for recognising a Thinking School emphasise the important role played by the principal, the school governing body and the cognitive education coordinator, who leads and drives the project of building the school as a Thinking School (Moolla, 2014, p. 69).

There is a need to explore the curriculum leadership role in Thinking Schools.

Current studies (Green & Collett, 2021; Green, 2014; Amsterdam, 2010) show that South African schools are lacking in facilities: leaders and teachers alike do not have the capacity or the time to implement thinking skills and strategies in their classrooms. Moonsamy (2014, p. 59) argues that "classrooms in South African state schools are generally small and often overcrowded. The student-teacher ratio often allows neither individual student attention nor in-depth verbal discussions." Edries (2012, p. 32) states that "training needs to fit into an already busy school schedule". Cognitive education training would take up a lot of time and thus is generally neglected (Green, 2014).

A study by Moonsamy (2014, p. 59) found, "Teachers indicate that their workload is excessive. Owing to the demands of the curriculum, school, and state departmental administration, they do not have sufficient time to teach thinking." Disadvantaged communities and their respective schools regularly encounter barriers to a good quality education, such as a lack of suitably trained and qualified teachers (Van der Berg, 2008; Du Plessis & Mestry, 2019). Financial and contextual resources are also lacking.

The problem my research hopes to address is the fact that there is limited literature available on the curriculum roles of leaders in Thinking Schools. Thus, there is a need to add to this limited body of research and practice on developing Thinking Schools. By doing this research I hope to clarify what curriculum roles leaders' play in Thinking Schools to support cognitive education: How did leaders enable, support and sustain their staff to teach thinking and promotion of deep-level learning (constructing complex understanding and meaning)? "The national curriculum specifies critical and creative thinking as important curriculum outcomes, but school leadership in this area has not been actively developed." (Collett & Green, 2017, p. 1). Researching these practices can inform not only other schools but various role players within the education sector on how to manage and facilitate the teaching of thinking under circumstances which may be challenging. Thinking Schools and critical thinking provide a

gateway that can be unlocked. Thinking Schools is not a new concept, but I believe it should be well known and recognised.

1.4 Strategic Objective and Research Aims

My **strategic objective** in undertaking this study is to identify key curriculum practices that could be used by the school leadership in my school and in other conventional schools to actively promote the teaching of thinking and to inform their policy decisions.

With this research focus I aim to explore leaders' understanding of what is meant by a Thinking School; explore the roles of the principal and senior management in supporting development of a Thinking School; and compare the leadership practices from the case-study school with curriculum leadership practices recommended in the literature.

1.5 Research Question

What curriculum leadership practices by senior management support the development of a selected primary school as a Thinking School?

1.5.1 Subsidiary Questions

1. What do members of senior management understand a Thinking School to be?

2. What curriculum leadership roles do the principal and senior management members play in developing the institution as a Thinking School?

1.6 Literature Review and Conceptual Framework

The literature review in Chapter Two gives an explanation of curriculum leadership. Various roles and practices are also explained. An overview of curriculum leadership dimensions is provided. South African learners do not know how to make inferences and conclusions (Howie, et al., 2017). Deep-level thinking is lacking in classrooms. A bounded relationship with performativity leads to a teaching-to-test mentality (Jeffrey & Troman, 2009). The Thinking School movement and cognitive education are discussed, with emphasis on how the teaching of thinking is beneficial to an individual and how it can better learners' understanding. The Thinking Schools movement in South Africa is illustrated, and the theory of learned intelligence is explained. The practices employed to teach/mediate thinking are elaborated on and curriculum leadership practices in Thinking Schools are discussed with a view to their possible enactment within institutions.

Curriculum leaders play a vital role in guiding the school to adopt a new approach, one that can help the learners grow mentally. Various curriculum leadership practices (Dempster, 2009) are reported in Chapter Two. The Thinking School concept is still new in South Africa, but in some schools, leaders are aware of cognitive education. They may, however, lack knowledge of the concept, thus there is a need for widespread training (Green & Collett, 2017).

The conceptual framework (Appendix K) consists of four main curriculum leadership dimensions, namely: Enhance Organisational Conditions for Learning; Lead, Plan and Organise the Curriculum; Supervise and Improve Teaching, Learning and Assessment; and Engage in Evidence Based Monitoring and Evaluation. An overarching theme is found throughout the four dimensions, which is Disciplined Dialogue and Reflection. In developing these dimensions of my conceptual framework I have drawn on the work of Dempster (2009) and Henderson and Gornik (2007). Each curriculum leadership dimension has specific roles that are enacted by various school leaders. These roles have been identified in the work of Dempster (2009) and Perkins and Reese (2014). They have been refined in the light of possible curriculum leadership practices in a Thinking School provided in the literature. The work of the following authors was drawn on to refine curriculum leadership roles in a Thinking School: Burden (2008), Green (2014) and Martin and Schein, (2013). (See Appendix K – Conceptual Framework of Curriculum Leadership roles in a Thinking School).

1.7 Research Approach

The philosophical orientation that I draw on in this study is aligned with an interpretivist stance. Research should not happen in an isolated bubble, where social interaction does not play a role in making meaning. Myers (2009) and Aliyu, Singhry, Adamu, and AbuBakar (2015) explain that admission to realism (assumed or created on a social basis) is simply done through social structures and creations such as linguistics, cognisance, mechanisms and shared values.

A qualitative research approach will be used in this study as it involves human interaction and does not necessarily include numbers or statistics. This approach gives a voice to people's opinions and provides insight into fundamental reasons, views, and inspirations (Hammarberg, Kirkman & de Lacey, 2016). This is a case study of a primary school in the Western Cape that is an accredited Thinking School.

With regard to data gathering Atieno (2009, p. 16) explains:

> Qualitative methods are highly appropriate for questions where pre-emptive reduction of the data will prevent discovery, and qualitative methods have in common the goal of generating new ways of seeing existing data and all qualitative data can be coded quantitatively.

A qualitative method enables the researcher to add value-laden questions, which may lead to new theories and build on existing information. "It provides insights into the problem or helps to develop ideas or hypotheses for potential quantitative research." (DeFranzo, 2011, paragraph 2). This approach will illustrate the participants' views, perceptions and experiences of curriculum leadership within a Thinking School and will help bring in-depth understanding to the concept of cognitive education and Thinking Schools.

Ethical considerations that informed this study included confidentiality, respect for human dignity and informed consent. "Ethics pertains to doing good and avoiding harm." (Orb, Eisenhauer, & Wynaden, 2001, p. 91). These aspects and related ethical protocols will be elaborated on in Chapter Three, the methodology chapter.

1.8 Definition of Key Terms used in this Research

a. **Cognitive Education:** Cognitive education refers to "the active and intentional teaching of thinking skills and metacognitive awareness" (Edries, 2012, p. 10).

b. **Thinking School:** Burden (2009), as cited in Moolla (2014, p. 65), defines a Thinking School as "a learning community in which all members share a common language, where thinking strategies and tools are used across the curriculum". I will use this definition in my study.

c. **Learning Organisation:** Kools and Stoll (2016, p. 5) state that "a school as a learning organisation has the capacity to change and adapt routinely to new environments and circumstances as its members, individually and together, learn their way to realising their vision".

d. **Curriculum Leadership:** This is the leadership role that is focused on "teaching and learning and on the behaviour of teachers in working with students. Leaders' influence is targeted at student learning via teachers." (Bush, 2007, p. 401). Williams (2014) regards curriculum leadership as a broad concept that subsumes instructional leadership and maintains that curriculum leadership should take place at the classroom level and throughout the whole school.

e. **Transformational Curriculum Leadership:** Henderson and Gornik (2007) state that transformational curriculum leadership is the critical reflection on the self, the subject, and the societal context within which the curriculum is enacted.

f. **School management team (SMT):** According to Mangena (2010):

> A school management team is a group of educators at a school. This group is composed of the principal, deputy principal(s), heads of department and master teachers. Their responsibility is to manage the day-to-day activities of the school on a consultative and professional basis. They lead, plan and organise tasks (p. 9).

1.9 Thesis Layout

This thesis consists of six chapters and includes images applicable to the study.

Chapter One is the introductory chapter. It provides the background and rationale for the study. It also provides a problem statement and the research aims and objectives. Research questions are provided and the methodology used in the study is clarified.

Chapter Two provides a review of the literature. Dempster (2009), Henderson and Gornik (2007) and Perkins and Reese (2014) underpin the dimensions, practices and roles of curriculum leaders in a school. Thinking Schools and cognitive education are then explained. Feuerstein (1980), Burden (2008), Green (2014) and Martin and Schein (2013) are used to support the study and to define the effects of cognitive education and the teaching of thinking. This is followed by discussion of various theories on cognitive education; the Thinking School concept; and the performing of curriculum leadership duties.

Chapter Three outlines the research methodology and design used in this study. This chapter describes the data-collection strategies (online digital questionnaires; individual interviews; focus group interviews; and documentary analysis), data analysis, and ethical considerations.

Chapter Four presents the results in the form of a case study. A brief description of the school is provided. This chapter presents findings and analysis from the online digital questionnaires; individual interviews; focus group interviews; and documentary analysis about the school leader's role in supporting and enabling the teaching of thinking.

Chapter Five presents a discussion of the research findings in relation to the related literature.

Chapter Six concludes the thesis with a summary of the study and a presentation of key findings. The strengths and limitations of the study are discussed and recommendations are made for further research and strengthening of practice.

1.10 Conclusion

This chapter's focus was to afford a background for the study and its rationale that curriculum leadership practices and the roles of SMTs should support development of a selected primary school as a Thinking School. The problem statement is explained and the research aims and objectives are clarified along with the research questions. An overview of the literature review is provided and the conceptual framework is explained. Furthermore, the research approach is summarised and key words are defined and clarified. This chapter concludes by providing the thesis layout and a brief outline of the chapters to follow. Chapter Two will elaborate further on the literature.

Chapter 2

Literature Review

2.1 Introduction

In this chapter I will discuss the concept of curriculum leadership and how it is enacted in schools through leadership, and then I discuss how the latter enables the active teaching of thinking. An overview of the roles/practices of curriculum leadership is provided

I will also present the theory that underlies the notion of learnable intelligence and some key research that supports it. Then I will briefly review some of the better known practices that have emerged as ways of teaching thinking. I will also outline the history of the Thinking Schools movement. An overview of Thinking Schools is given in the literature review. This is followed by a section on how cognitive education is employed in Thinking Schools. The literature review concludes with a review of curriculum leadership practices in Thinking Schools. I will discuss the as-yet limited international and local research findings regarding curriculum leadership practices found in Thinking Schools.

2.2 Curriculum Leadership

This section of the literature review defines the terms curriculum and curriculum leadership. It then identifies the key aspects of curriculum leadership. Key curriculum leadership practices pertaining to the development of Thinking Schools are then identified.

According to Stenhouse (1975, p. 4) "a curriculum is an attempt to communicate the essential principles and features of an educational proposal", whilst Alanazi (2016, p. 2) argues that a "curriculum sets down goals, objectives, [and] instructional resources to be used when teaching and learning. It also communicates what students should know, do, and enables teachers to achieve goals and objectives set forth in the curriculum." On the other hand, leadership according to Yukl (2005, p. 4) is a "process of influencing others and it entails facilitating individual and collective efforts to realise shared objectives".

The literature uses instructional and curriculum leadership to refer to a focus on leading learning. Curriculum leadership is defined by Bush (2007, p. 401) as the leadership role with emphasis on "teaching and learning and on the behaviour of teachers in working with students. The leader's influence is targeted at student learning via teachers." Both Williams (2014) and Ylimaki (2012) view curriculum leadership as a wide-ranging notion that includes instructional leadership, which mainly focuses on the pedagogy and teaching of a learner. Williams (2014) maintains that curriculum leadership is effected at classroom and whole-school level and that it involves a broader responsibility, including a concern for social justice and equity. At a school level curriculum leadership involves engagement in the cycle of curriculum development, delivery, monitoring, and evaluation and review to improve the type and quality of teaching and learning (Harris, Jones & Crick, 2020; Henderson & Gornik, 2007).

At a classroom level curriculum leadership includes the planning, teaching, monitoring and reviewing of the curriculum. Ng (2019, p. 5) elaborates by explaining that:

> Current literature shows that instructional leadership does not require the principal be a model or exemplary teacher; but he/she must have the capacity to create the organisational conditions necessary to build pedagogical capacity, expand opportunities for innovation, supply and allocate resources, give instructional direction and support to teachers, and enable teachers to assume individual and collective responsibility for instructional improvement.

In the literature reviewed, curriculum leadership and instructional leadership are used interchangeably; however, I will give preference to the term curriculum leadership as it is a more encompassing concept than instructional leadership. Williams (2014) points out that school leaders are required to play a key role in curriculum leadership, which includes supporting teachers to plan, teach, monitor and reflect on the extent to which they are developing the ability of all learners as critical and creative thinkers.

Henderson and Gornik (2007) use the term transformational curriculum leadership to acknowledge the deep-seated changes associated with this work if curriculum leadership is engaged in a critical way. Henderson and Gornik (2007) argue for a transformational approach to curriculum leadership, arguing that it requires critical reflection on the self, the subject and the societal context within which the curriculum is enacted. In changing the way a school operates and adopting a new approach to pedagogy a school has to transform from the top structures downwards, as every stakeholder should be involved. In Thinking Schools, one would argue, this type of curriculum leadership should be practiced at both a classroom and whole-school level.

2.2.1 Curriculum Leadership Roles, Approaches and Responsibilities

The next section of the literature review will explain and describe the formal curriculum leadership roles, approaches and responsibilities in schools. The principal, school management team (SMT), departmental heads and phase heads can be considered as part of the formal curriculum leadership team in schools. As the global economy gathers pace, Bush (2007) points out, more governments are realising that their main assets are their people and that remaining or becoming competitive depends increasingly on the development of a highly skilled workforce. This requires trained and committed teachers, but these, in turn, need the leadership of highly effective principals and the support of other senior and middle managers (Bush, 2007).

Curriculum Leadership Roles and Approaches

A review of related literature (Henderson & Gornik, 2007; Ylimaki, 2012; Williams, 2014; Chan & Ridley, 2020) reveals that curriculum leadership requires a focus on the following key roles: providing clarity in guiding teachers and setting direction for the whole school in alignment with the vision and mission of the school; affording opportunities to empower and develop future leaders (i.e., leadership needs to be shared); providing opportunities for continuous development, whereby the school facilitates the learning of its members through

professional development (workshops, seminars etc.), and establishing goals in alignment with the vision and mission of the school.

Curriculum leaders use monitoring and evaluation to improve the curriculum through its modification and adaptation (Williams, 2014; Bush, 2008; Leithwood, 2005).

Lee and Dimmock (1999, p. 457) state that curriculum leadership roles encompass the following principles: "goal setting and planning; monitoring, reviewing and developing the educational programme of the school; monitoring, reviewing and developing the staff of the school; culture building; and allocating resources".

Curriculum leaders should engage with whole-school development in order to sustain any progress made in active teaching of thinking. Jorgensen (2016) states that curriculum leaders, whether they are staff members or the principal, should be "inclusive of the overall school environment and support mechanisms within the school" (p. 371).

Morrison (1995) argues that a vice-principal or a deputy head teacher in primary schools should exercise curriculum leadership partly because he/she is positioned to communicate and maintain liaison between the principal and staff. On the other hand, O'Neill and Kitson (1996) emphasise the role of heads of department (HOD) or subject co-ordinators in the management of quality teaching and learning in primary schools. Clutterbuck and Hirst (2002) however state that "leaders who do not communicate well are not really leading at all; it is one thing to have the position, another to fulfil the role" (p. 351). Leaders "…need to be able to write and speak in using a level of language expected of leaders. They need to be able to create a space for the sharing of ideas and deliver messages across" the school (Zulch, 2014, p. 178).

Curriculum Leadership Responsibility

In the South African context, the Department of Basic Education (2012) states that a school leader should empower staff to become instructional leaders who share responsibility for achieving the mission, vision and goals that have been set.

According to the policy of the South African Standard for Principalship (2015, p. 11) curriculum leaders are responsible and required to:

> lead the school into the future through the use of ICT [information and communications technology]. They also have to foster the success of all learners and promote a culture of achievement for all learners by communicating and implementing a common vision and mission that is shared by all stakeholders. They are required to develop and implement an instructional framework that is data-driven, research-based, and aligned with the national curriculum. Lastly their responsibility lies in recognising good instructional practices that motivate and increase learner achievement, and encouraging educators to implement these practices.

In South Africa's schools the principals typically take the lead in defining a clear direction for their schools and they personally coordinate efforts to increase learner achievement. They are required to plan, manage and monitor the curriculum, and also to evaluate the quality of teaching and learning (Bush, 2007).

In a curriculum-leadership sense principals are responsible for implementing all the educational programmes; managing all educators and support staff; ensuring that all evaluation/forms of assessment conducted in the school are properly and efficiently organised; and for developing staff training programmes (Personnel Administrative Measures, 2016, pp. 41–44).

Instructionally the principal is required to lead learners; ensure that the school is a:

> professional learning community; lead continuous improvement in curriculum implementation to foster the success of all learners; [and to promote] a culture of achievement for all learners by communicating and implementing a common vision and mission … shared by all stakeholders (South African Standard for Principals, 2016, p. 14).

"Leadership who maximises curriculum leadership drive the emotions of those they lead in the right direction" (Goleman, 2021, p. 69) and a study done by Cherkowski and Walker (2016) illustrates that:

> this feeling of working together towards this important common purpose often seemed to create an emotional bond among teachers. Having this sense of collective action towards a shared purpose helped them to navigate through challenging times and in difficult work situations, and contributed to a feeling of fulfilment and meaning in the work of leading their schools (p. 383).

Drawing on related international studies, Leithwood, Jantzi and Steinbach (1999, p. 8) assert that "original beliefs concerning the principal as the primary or most important instructional leader required rethinking" as Martin and Schein (2013, p. 22–23) elaborates:

> Leadership will provide specific support to the academy through oversight of the mission and vision; programme implementation; general management of the academy; financial management through review and approval of budgets and financial recordkeeping; implementation of contracts; deployment of personnel; publicity; and advocacy.

In order for active teaching of thinking to take place school leaders need to be more flexible and delegate some decision making and authority to teachers as leaders in their respective classrooms (Costa & Kallick, 2014). Leaders in the school need to involve all the relevant role players (learners, teachers, parents, HOD and retired teachers), so that a meaningful curriculum can be developed. Thus it is imperative to co-operate with others. Leadership is the work and responsibility of everyone involved with the school (Lambert, 2002). Bush, Joubert, Kiggundu, and van Rooyen (2010, p. 1–6) argue that:

> Leaders and middle managers (HOD) should hold regular meetings of the educator team to plan teaching and to discuss problems and model good practice by taking lessons while educators observe. They should also observe educators regularly and provide structured and constructive feedback to enhance teaching and learning; evaluate learner outcomes; design strategies to improve classroom practice; and monitor the work of educators through scrutiny of work plans and learner outcomes.

A review of the literature reveals that a whole-school approach to curriculum leadership is advocated by Burden (2008); Moolla (2014); Burden & Nichols (1997); Young, Cavanagh, and Moloney (2018) and the World Health Organisation (1996). Whole-school development is multifaceted and aimed at achieving effective teaching and learning – through developing all aspects of the school as an organisation and ensuring that the key aspects (mission and vision) of a school are achieved through a shared partnership (Davidoff & Lazarus, 2002; Moolla & Lazarus, 2014). This includes a commitment from all the stakeholders in the school to interaction between teaching and learning and the learned curriculum. In order for this approach to be sustainable all stakeholders in the school community must be involved in improvement, development, and goal setting: all elements of the school should be addressed. This is important, because a missing link (unwillingness on the part of teachers to follow a new teaching method) can lead to a development failing in its infancy (Acosta, Chinman, Ebener, Malone, Phillips & Wilks, 2019).

The whole-school development approach provides key opportunities for educational achievement. It has to be a collective effort involving all stakeholders. It can be seen as a self-study improvement plan, in which the whole-school development is directed at building capacity for the organisation in order to bring about change, but the organisation has to become a learning one. While the people, procedures and structures have to be in place, the organisation has to improve the quality of teaching and learning (Moolla, 2014).

In essence the curriculum-leader roles include setting direction; affording opportunities to develop future leaders; planning and organising the curriculum; developing and sustaining a positive school climate; sharing the leadership, monitoring and evaluation; and reviewing and developing the school's educational programme. The curriculum leadership's responsibility entails implementation of all educational programmes; promoting a culture of achievement for all learners; delegating some decision making; and making use of a whole-school approach directed at building the organisation's capacity.

2.2.2 Summary of Curriculum Leadership Dimensions and Roles

In this section of the literature review I will discuss the different dimensions of curriculum leadership and its related roles. According to Henderson and Gornik (2007) the key dimensions of curriculum leadership include reflective inquiry; designing and planning; evaluation; and organising and building local learning communities. Leithwood and Riehl (2003) also make mention of some key dimensions of curriculum leadership, namely: monitoring organisational performance; nurturing the development of families' educational cultures; strategic planning; modifying organisational structure; and offering intellectual stimulation.

Several frameworks and models explain the roles of senior management and curriculum leaders in schools: the table below summarises these key dimensions and findings drawn from the literature review. I have drawn on the dimensions of Dempster's (2009) *Leadership for Learning Framework*, Hill and Crévola's (1997) *Redesigning Schools for Improved Learning*, and Henderson and Gornik's (2007) *Transformative Curriculum Leadership* to analyse, summarise and explain the key dimensions and role of leadership in supporting learner learning

as this pertains to curriculum leadership practices one would associate with conventional schools. The table below summarises the key dimensions and related curriculum leadership roles.

Table 1: Key Dimensions and Roles in Curriculum Leadership

Dimensions	Roles and Practices
Organisational Conditions	Leithwood and Riehl (2003, p. 1–6) argue that principals "must respond to increasing diversity in student characteristics, including cultural background and immigration status, income disparities, physical and mental disabilities, and variation in learning capacities. Rapid developments in technologies for teaching and communication require adjustments in the internal workings of schools." A curriculum leader's role is to enhance conditions for learning (Dempster, 2009): she or he must make sure that the physical environment is suitable for teaching and learning to take place. The leader has to pay attention to resources such as textbooks, desks, even projectors and also other important factors such as class size, lighting, ventilation, etc. Curriculum leaders should also create healthy social-emotional learning and encourage and develop a positive behaviour support system (Sheras, & Bradshaw, 2016; Jennings, Minnici, & Yoder, 2019). According to Maponya (2015, p. 10) the curriculum leader "is to create a culture that is conducive to teaching and learning, or a culture where educators, learners and parents work together to carry out the task of education". and they should "promote a positive school learning climate" (Hompashe, 2018, p. 4).
Curriculum Design and Planning	Designing provides a plan or visual representation of what is to be created or developed (Barnes, 2018). "Curriculum planning ranges from deciding what will happen in the classroom tomorrow through a lesson plan, to developing a four-week integrated unit with other teachers, to planning a full programme, under which many courses may exist." (Henderson & Gornik, 2007, p. 94). Henderson and Gornik (2007, p. 97) assert: > A district or school's curriculum leadership committee engages in deliberations for designing a platform. This committee is typically made up of teachers, parents, community members, central office colleagues, students and university colleagues. The key purpose for involving faculty members in the platform design work is to create common ground for curriculum planning and enactment. It coherently states [the] aims, basic assumptions and the forms of teaching and learning. To maintain the focus on a leader's moral purpose and what needs to be done to help improve learning and performance, a strong evidence base is essential for the planning and designing of a curriculum. Planning and designing that is evidence based of some kind helps keep discussions disciplined and meticulous (Dempster, 2009). Curriculum leaders will design and plan the schooling programme with all stakeholders and this would be based on a strong evidence-based foundation (Bernhardt, 2017).

Teaching and Learning	Curriculum leaders should ensure high-quality interaction among learners and that they work interdependently to achieve a goal or complete a task. Evans (2020, p. 5) sees "collaboration as process and views collaboration as a domain-general skill that is important in its own right for work and life in society". Curriculum leaders also play a role in supporting teachers to engage learners and to include them in lessons. They have to frequently ask questions and allow learners to answer and form their own questions. Decman (2020) states that active participation is the deliberate engagement with learners to participate in lessons. The curriculum leader's role is to ensure learners do more than passively listen to teachers. Curriculum leaders will ensure that teachers make use of various teaching methods to enable more effective teaching. Teachers can use a visually stimulated approach (videos, pictures) and can use more practical learning examples. Schmidt and Ralph (2016, p. 6) argue that "short videos are key to a successful conversion of course material if utilised appropriately". School staff, particularly teachers, should request opportunities to update their knowledge and to constantly develop their pedagogy and skills (Kennedy, 2016). Mizell (2010, p. 9) highlights key activities that help teachers stay relevant and up to date: "study groups among peers, team meetings to plan lessons and whole-school improvement programmes". "Active involvement in professional learning with teachers is the most powerful influence leaders can have on the quality of teaching and therefore on the quality of student learning and achievement." (Dempster, 2009, p. 4). Professional development leads to relationships with other schools, provides opportunities for networking and encompasses engagement with experts in various academic fields (Dempster, 2009). Professional development enhances collaboration and allows for more than one mind to come up with solutions: "Collaboration supports a togetherness mindset and develops collective knowledge that extends beyond individual, isolated experiences in classrooms." (Bates & Morgan, 2018, p. 624). Curriculum leaders should ensure regular opportunities for staff to update their knowledge and provide opportunities for everyone to share ideas and views (Ainscow, 2016).
Evaluation and Monitoring	Monitoring is the checking and inspection of the progress of any school programmes and plans. Information attained through monitoring is used for evaluation, which assesses positives and negatives of any completed programme or project. Evaluation and monitoring form a key dimension of curriculum leadership; they also form a key theme in problem identification; Evaluation and monitoring are done at the end of any process to look at its successes or failures (Javed, Inayat, & Javed, 2021). "Curriculum leaders who make use of the evaluative approach require disciplined critical and visionary thinking with an emphasis on case-by-case deliberations." (Henderson & Gornik, 2007, p. 148) Curriculum leaders also need to have the following expertise and abilities in order to facilitate a more operational evaluation process: they need to be able to

	negotiate, be accountable, take responsibility and check for fundamental challenges in the teaching and learning process (Owen, 2020). According to Kusek and Rist (2004, p. 204), "Evidence based evaluation provides information that is credible and useful, enabling the incorporation of lessons learned into the decision-making process for the future." Leithwood and Riehl (2003) hold that school leaders spend extra time monitoring and reviewing school results and developing tangible ideas for the enhancement and progression of these ideas and or policies. "Of considerable importance also, is the curriculum leadership role played by principals, which involves the coordination of curriculum responsibilities, participation in monitoring teaching, student learning and performance." (Dempster, 2009, p. 4). Curriculum leaders should implement evaluation and monitoring processes to identify successes and failures within the school, but this should be built upon an evidence-based foundation (Bernhardt, 2017).
Reflective inquiry	Rodgers (2002), Castaño and Litao (2021) and Nigar (2021) argue that reflection is a meaning-making procedure that transfers a student from one situation to the next while imparting a more profound understanding of the connection with other situations and notions concerning their errors, especially when it comes to planning and monitoring. Leithwood and Riehl (2003) and also Wu and Crocco (2019) found that for a school to become organised and structured, dialogue has to occur amongst teachers, learners, parents and the broader community to improve teaching and learning. They argue that proactive leaders need to inspire staff to use reflection as a challenge to examine the norms of their pedagogy and rethink ways in which it can be implemented. Artzt and Amour-Thomas (1999) found that curriculum leaders who engage in self-reflection and who collect student feedback will start to examine the degree of student involvement and adjust their instructional practices accordingly. Henderson and Gornik (2007, p. 68) argue that "reflective practice is often not best done in isolation; moreover, this is truly collaborative work". Dempster (2009, pp. 6–7) stresses the need for "disciplined dialogue"; > Good quality data about students' learning and performance should be coupled with disciplined dialogue if improvement actions are to be realistically grounded. The disciplined dialogue occurs through scaffolding dialogue, which is achieved by using 'tools' such as processes, questions, scenarios, critical incidents, reports, test and questionnaire data and so on. Curriculum leaders should make use of reflective procedures to look for improvements and errors. This can help them to execute plans better in future (Damore & Rieckhoff, 2021). The leaders, however, should do this as a collective effort, so that staff can grow together and hear the opinions of others. Curriculum leaders should open doors for networking and develop professional learning communities within the school's parameters (Nigar, 2021). Azorín (2022) confirms that:

	the potential of learning networks has been recognized as an efficient strategy for improvement in schools, thus, it can be argued that the inescapable advancement of networking environments is closely linked to the growing number of collaborative alliances and the increasing connections between education stakeholders. Networks represent an innovative paradigm that is able to promote and support school development and address problems collaboratively and flexible (p.64-65). Leaders and teachers in the inquiry process are important for professional learning, which consists in having schools with evidence from student feedback and classroom practice (Timperley, Wilson, Barrar, & Fung, 2007).

These key dimensions emanate from a review of related literature. They create the organisational conditions for teaching and learning. Designing and planning the curriculum, teaching and learning, evaluation and monitoring, and reflective inquiry all come forth in a conventional school. Curriculum leaders have to ensure that organisational conditions in a school meet learners' needs, support them, and allow learners to express themselves in the school's created atmosphere. Curriculum leaders will design and plan a schooling programme with all stakeholders, and this should have a strong evidence-based foundation.

Curriculum leaders should ensure that teachers use various methods and include learners in their lessons. They should promote a more collaborative approach to learning and ensure that staff have regular opportunities to update their knowledge. Leaders should also provide opportunities for all to share their ideas and views. Curriculum leaders should open doors for networking and develop professional learning communities within the school parameters. Curriculum leaders should implement evaluation and monitoring processes to identify successes and failures within the school (programmes that did not work), but this should be evidence based. Curriculum leaders should make use of reflective procedures in pursuit of improvements and identification of errors. This can help them to improve upon execution of their plans at the next opportunity. Leaders should do this as a collective effort, however, so that staff can grow together and hear the opinions of others.

Curriculum leaders play a vital role in evolving and enhancing a school. Little information is available on curriculum leadership in Thinking Schools. The next topic is on Thinking Schools and how they function. Later on in this chapter I will attempt to clarify the roles that curriculum leaders enact in Thinking Schools.

2.3 Thinking Schools

2.3.1 Thinking Schools Movement

In the late twentieth/early twenty-first century, Bob Burden, a professor at the University of Exeter's Cognitive Education Development Unit (CEDU), was inspired by the work of New Zealander Gill Hubble in defining and creating what she named a Thinking School. Thinking Schools International developed later in the early 2000s, and 'thanks to Burden, and to training offered primarily by Richard Cummins' *Thinking Matters consultancy* a UK brand emerged,

which encourages schools to use a range of thinking interventions. In the US, David Hyerle's *Thinking Maps* approach informs Thinking Schools International. Thinking Schools South Africa was created in 2011 (Thinking Schools South Africa, 2017). All of these facilities offer training focused on a whole-school approach.

In addition, Exeter University in the UK offers accreditation (not training) by the CEDU. Specific criteria have to be met in practice (see appendix N). The service was spearheaded by Professor Burden himself (University of Exeter, 2022). The service is optional, and Exeter's criteria do not exhaust the definitions of Thinking Schools. To date 24 schools, including a few in South Africa, have been accredited with Thinking School status by Exeter University. Burden's criteria introduced the notion that a Thinking School should engage with more than one approach to the active teaching of thinking. Martin and Schein proposed a thinking academy, based on the work of Feuerstein.

The purpose of introducing thinking skills and techniques is to enable critical and creative thinking. The Thinking Schools movement developed out of the need for a whole-school approach to the teaching of thinking (Moolla, 2014). A significant factor is commitment at all levels of the school. Schools only prosper if all stakeholders share the same vision and mission. "Whole-school development is therefore a comprehensive approach to developing schools, involving all stakeholders and elements of the school as an organisation." (Moolla, 2014, p. 64). Thinking Schools are sometimes known as learning communities, but only those that endorse a whole-school approach. Thus the need for a collective unit that uses systems thinking. The whole-school approach "encompasses concepts such as school effectiveness, school improvements and organisational development in a process that facilitates change in schools and classrooms" (Moolla, 2014, pp. 64–65).

The Thinking Schools movement can be seen as a school-improvement programme that intends to improve the learner's ability to think and also to get better grades (marks). Masters (2010, p. 2) says "the school-improvement agenda has to be effective in focusing the whole school's attention on core learning priorities. There has to be a strong and optimistic commitment by all staff to the school improvement strategy and a clear belief that further improvement is possible." The school-improvement plan or agenda can only be effective if all the stakeholders in the school believe in the plan and the way forward. "Experiences of school improvement in East Africa indicate that the impact of training on the quality of teaching and learning is greater and more sustainable when the whole school is taken as a unit of educational change." (Murtaza, 2010, p. 215). It has to be stated that a whole-school programme usually involves a long process, but the rewards are far greater than the journey (Gislason, 2018). The authors above may write about whole school improvement in general, but their general recommendations apply to Thinking Schools also. In the case of Thinking Schools the journey started with cognitive education and later has begun to influence a whole new way of teaching.

During the mid-1980s "thinking" or "thinking skills" became known in schools together with the questioning of theories of static "intelligence" based on a "banking" system of learning content. Recommendations were made for deep questioning and the facilitation of thinking skills (Giroux, 2010). A major source and impetus for the active teaching of thinking was the

work of Feuerstein (*Instrumental Enrichment*, 1980, 2012). Substantial research by Feuerstein and his many colleagues has provided evidence of the success of carefully planned cognitive education, but it was only in 2013 that Martin and Schein published a detailed proposal for a Thinking School based on the work of Feuerstein (Martin & Schein, 2013).

Early attempts by individual teachers to make thinking-skill interventions in schools were frequently unsustainable, sometimes due to a lack of interest on the part of staff members; use of inappropriate implementation strategies (Moolla, 2014); or unsupportive school circumstances and priorities (Burden and Nichols, 2000). Moolla (2014, p. 67) explains:

> The school effectiveness and school improvement movement provided the impetus for shifting perspectives on what needed to be done in schools to effect change. Burden and his colleagues recognised the value of integrating lessons from the school development literature with cognitive approaches, and thus emerged his concept of the 'Thinking School'.

It is sometimes assumed that all schools can be considered to be Thinking Schools, because thinking is the most important factor in schools. However, Thinking Schools are orientated specifically towards "cognitive education", which denotes the active and intentional teaching of thinking skills and metacognitive awareness (Edries, 2012, p. 10). Burden (2006, paragraph. 1) describes a Thinking School as:

> an educational community in which all members share a common commitment to giving regular careful thought to everything that takes place. This will involve both students and staff learning how to think reflectively, critically and creatively, and to employ these skills and techniques in the co-construction of a meaningful curriculum and associated activities. Successful outcomes will be reflected in the students across a wide range of abilities demonstrating independent and cooperative learning skills, high levels of achievement and both enjoyment and satisfaction in learning. Benefits will be shown in ways in which all members of the community interact with and show consideration for each other and in the positive psychological well-being of both students and staff.

International studies (Tzuriel, 2011; Turner, 2017; Yurevna, 2021) show there is considerable benefit in introducing cognitive education and critical thinking in schools and their respective curriculums. However, it was also found that the contexts and backgrounds of these schools in their various countries and communities need to be taken into account. The focus tends to be on the curriculum and how it needs to be adjusted in order to get the best results and not on the respective school's contexts and environments in which they are found.

Fisher (1999) argues for an explicit focus on thinking during a lesson and supports the active cognitive processing of lesson content to make for better learning. Benefits to pupils will include equipping them to question and search for meaning in what they do; to deal systematically yet flexibly with problems; and to communicate effectively using the appropriate language of thinking and learning. Swartz and Perkins (2016) assert that other benefits of a focus on teaching thinking may include analysing arguments, claims, or evidence; making decisions or solving problems; answering questions for clarification; defining terms; making inferences using inductive or deductive reasoning; and identifying assumptions.

Thinking Schools emphasise the asking of questions in class and getting learners to be involved in classroom dialogue or topic discussion by asking them questions or letting them ask questions (Walsh & Sattes, 2016) and enabling them to talk about thinking processes. Some Thinking Schools see it as a journey in discovering oneself as Bhardwaj (2016) mentions that "if secondary and tertiary educational knowledge develops our professional (career) skill, the spiritual knowledge makes us achieve the supreme goal of life that is self-realization" (p. 24). Some Thinking Schools use Bloom's Taxonomy as a framework to extract deeper thinking from learners: the taxonomy is used to obtain their educational objectives.

> Bloom's Taxonomy can differentiate between cognitive skill levels and calls attention to learning objectives that require higher levels of cognitive skills and, therefore, lead to deeper learning and transfer of knowledge and skills to a greater variety of tasks and contexts (Adams, 2015, p. 152).

The Thinking Schools movement emphasises the importance of explicit teaching of metacognitive awareness (the understanding of one's own thinking processes) and the exploration of ways to answer a question. Kloss (1994) states that students must be exposed to ambiguity and multiple interpretations and perspectives of a situation or problem in order for their growth to be stimulated. A Thinking School involves whole-school development, where all stakeholders need to be involved and all aspects of organisational life are addressed (Moolla, 2014).

Evidence Related to Thinking Schools

A quantitative study by Walters (2019) has found clear evidence of improved learning outcomes in English Thinking Schools. Tan (2006), Koh (2002), Saravanan (2005) and Raiyn (2016) all state that learner cognitive levels and their thinking skills improved, especially in problem solving and comprehension. Fan (2016) found that the use of Thinking Maps helped learners to secure amazing grades and to develop their creative skills. Learners were also more willing to participate. As stated in Tan (2006, p. 89), "The former Prime Minister, Goh Chok Tong, stressed the urgency for Singapore schools to nurture thinking and for committed citizens to keep Singapore vibrant and successful in the future."

Low (2014) reports that in one primary school in the UK, Thinking School strategies ensured that learners and teachers shared a common language and conducted purposeful, professional dialogue (by teachers). Learners took pride in what they learned. Evans (2015) reports that the Rhydypenau Primary School used thinking tools as a learning platform from nursery level to year six. Teachers and learners used a shared language, which led to effective and rich communication and hence the acquisition of learning skills.

The benefits of teaching thinking skills have been well documented and researched (Ennis, 1985; Willingham, 2007). Many others have researched specific thinking-skill approaches, such as Instrumental Enrichment (Feuerstein & Falik, 2012, Feuerstein, 2021) and Philosophy for Children (Lipman, 1982; Gregory, Haynes & Murris, 2017). My focus will be on the curriculum leadership practices of school leaders, deputy principals and HOD in Thinking

Schools. My focus will be on how they assist the teacher and enable a successful Thinking School.

Little attention has been given to how curriculum leadership enables a Thinking School and sustains its functioning as one. Research on this topic is very limited: I have come across a few examples in my searches. Fisher (1999, p. 61) reiterates, "Teachers need not only training but also support in delivering the curriculum in the classroom." Curriculum leadership is vital in producing the stimulus for further growth; teacher and learner excellence; and particularly a focus on teaching thinking. It is through curriculum leadership that thinking is placed at the heart of the curriculum.

2.3.2 The Thinking Schools Movement in the South African Context

Thinking Schools South Africa was formed because some educators in South Africa were keenly interested in the notion of learned intelligence and its implications for teaching and learning, and they wanted to introduce these ideas to schools (Edries, 2012). In the course of the mid 1980s, academics and educators were interested in improving the quality of education for all children in South Africa (Thinking School South Africa, 2017).

There is an emergent awareness that when learners simply study to remember the subject matter that they learn at school, they may fail to contribute to a growing society or to be integral to changing South Africa's socio-economic conditions. Learners are now being taught difficult situations and scenarios, which require various answers and solutions (Van den Berg, 2004). They now also understand and learn that when they work as a collective entity they will be exposed to new suggestions, opinions and perceptions, thus leading them to be more open-minded. They are now being taught a wide range of thinking skills and strategies (Van den Berg, 2004) in certain schools.

However, Thinking Schools South Africa (2017, paragraph. 2) formed because:

> it has not been made clear how school management and staff build these thinking skills into teaching and learning practice. Thinking Schools South Africa was formed as a national non-profit organisation by cognitive education specialists, as a collaborative community of global and national experts to help develop and facilitate the movement further in South Africa.

Thinking Schools South Africa offers various workshops to support the development of Thinking Schools.

2.3.3 The Theory of Learned Intelligence

The Thinking Schools movement has emerged in the past 19 years as a response to theories that argue in favour of "learned intelligence" (Perkins & Grotzer, 1997; Sternberg, 2018). These include Vygotsky's (1978) account of cognitive development and the more recent work of Feuerstein and his colleagues (2012, 2021). The latter authors maintain that individuals can, at any age, develop and refine the thinking abilities enabled by the human brain in ways that enable more effective thinking and learning. If it is possible to learn to become a better thinker

it must be possible to "teach thinking". Developing learners as thinkers will not necessarily happen on the learner's own account. This can, however, happen through a mediational teaching style, where teachers facilitate learners through various processes, so that the latter can discover and interact more with knowledge. Teachers who believe in learned intelligence tend to "encourage students to become metacognitively aware; that is to notice and manage their own thinking processes" (Green, 2014, p. 33). Feuerstein's structural cognitive modifiability is another well-known concept in the Thinking Schools movement (Walkes, 2018). The individual can learn to adapt his/her thought process: "structural cognitive modifiability means that, in any human being, the mental structures that enable thinking and learning have the potential to be different" (Green, 2014, p. 24–27).

2.3.4 Practices Employed to Teach/Mediate Thinking

Several cognitive education approaches designed to teach thinking are well known. Each of these approaches has its own unique assumptions about how best to teach thinking. The better known include: Thinking Maps (Hyerle, 1996; Siew & Mapeala, 2016); Instrumental Enrichment (Feuerstein 2012, 2021); Philosophy for Children (Lipman, 1982; Gregory, Haynes & Murris, 2017); and Habits of Mind (Costa & Kallick, 2000, 2005; Kallick & Zmuda, 2017). These approaches have in common an emphasis on the various cognitive skills involved in thinking and the thinking "tools" that can refine them, together with the development of metacognitive awareness and a "language of thinking" that enables shared reflection on both the content and process of learning.

According to Hyerle (2014, p. 161) Thinking Maps:

> may be described as a synthesis of three types of visual tools that educators and business people have used for generations: mind-mapping (brainstorming webs for creative thinking), graphic organisers (for more analytical thinking) and thinking-process tools such as systems and concept mapping (for concept development).

Long and Carlson (2011, p. 5) argue as follows:

> Thinking Maps make an excellent addition to any classroom because they teach students to think critically about subjects and form connections between subject disciplines. By watching their thoughts unfold in front of them, they will be better equipped to make curricular connections and develop deeper knowledge and understanding of concepts.

Thinking Maps makes thinking visible and forms a "useful tool for helping younger students with the process of building conceptual understanding of content and promoting achievement" (Mona & Khalick, 2008, p. 298) and "one major goal of making thinking visible is to facilitate greater understanding among students. Another aim is to enhance students' engagement and independence" (Ritchhart, & Perkins, 2008, p. 22).

Feuerstein's Instrumental Enrichment (IE) skills programme was derived from his 1979 theory of structural cognitive modifiability. It is based on his active-modification approach. The theories of Feuerstein which forms the basis of the IE programme are established on two key concepts: structural cognitive modifiability and mediated learning experiences (Feuerstein,

Rand, Hoffman, & Miller, 1980). This theory concentrates on the person's capability to cope with his/her surroundings. The programme aims to escalate the child's ability to adapt and change through the experience of real-life events in mutually formal and informal educational circumstances (Feuerstein et al., 1980; Head & O'Neill, 1999).

The IE programme's strengths possibly lie in the self-regulation fostered by the programme and the realisation that the planning behaviour has led to effective living (Fisher 1992, Walkes, 2018). The "cognitive approach does allow the pupils to work through difficult situations without the emotional stress of addressing often painful events" (Head & O'Neill, 1999, p. 128).

The collaborative inquiry advocated by Philosophy for Children, designed by Matthew Lipman in 1969, involves presenting and teaching reason and logic using a children's story as initial stimulus. "Philosophy for Children (P4C) is a learning-to-think programme designed to foster high-order reasoning skills and administered across the world." (García-Moriyón, Rebollo & Colom, 2005, p. 1).

P4C teaches reasoning skills to the learners so that they are better equipped to ask questions and understand topics. Vansieleghem (2005, p. 19) comments:

> Philosophy for Children aims at a radical change in education – from an approach that emphasises the role of the teacher and is based on knowledge transfer to an approach that puts the child at the centre and emphasises learning by discovery and experiment, and the construction of knowledge.

According to Green (2014) teachers who made use of P4C witnessed changes in their learners. She found that there was "greater engagement by children, more structured interactions, greater interpersonal respect and greater awareness of thinking" (Green, 2014, p. 137–138). Lipman et al. (1980) argue P4C is an alternative way of both, achieving academic success and creative potential as well as infusing social capital with critical capacity, which is the ability to communicate and socialise, understand, comprehend and reflect. As Lipman, Sharp and Oscanyan (1980, p. 203) write, "Thinking for oneself involves a reflection upon one's own experience and one's own situation in the world".

As the founding father of the twentieth-century progressive programme in education, the well-known academic John Dewey coined the term reflection as it relates to individual knowledge and learning. It is increasingly important to prompt reflective thinking among learners, as it helps them develop strategies for the application of new knowledge to complex situations in their day-to-day activities (Williams, 2017). Lipman was a great admirer of Dewey and his programme offered a way for schools to put Dewey's ideas into practice.

According to Helyer (2015), if used effectively and purposefully, reflection facilitates ongoing personal and professional learning, and it creates and develops practitioners (teachers and learners) who are capable of demonstrating their progression towards learning outcomes and required standards. Reflection can also provide a structure for making sense of learning so that concepts and theories become embedded in practice, while constant thought and innovation are simultaneously fostered. Williams (2017), in agreeing with Helyer (2015), states that by

actively considering thoughts and actions, one becomes aware of the power of reflective thinking as a tool for continuous improvement. By reflecting we gain perspective and find out why we make mistakes or correct choices (Westbrook, 2015). For example, a teacher can use reflection to see, in hindsight, why speaking louder does not make work more understandable. Moolla, (2014, p. 70) elaborates on reflection:

> Continuous reflection is fundamental to the process of developing as a Thinking School. Schools should be asking: Are we doing what we said we would? Does our plan need modification? Is the plan having the desired effect? Such reflection can be facilitated by an outside consultant or by members of the school community. A combination of the two is often most valuable. Then the school benefits from an external perspective, which tends to be more objective, and in addition, ensures that opinions and perspectives of 'insiders' like staff, students and parents are also heard. Monitoring development entails a regular review of school documents.

The notion of Habits of Mind was conceived in 1982 by Arthur Costa and Bena Kallick. They chose not to study behaviour, but habits: for example, good problem-solving habits. Habits influence action on a regular basis, and not simply once off. Costa and Kallick came to call these Habits of Mind: behaviour entailing a mental discipline that routinely works toward more articulate and intellectual accomplishments (Costa & Kallick, 2014).

The Habits of Mind programme refers to sixteen characteristics that intelligent people use to become more effective and skilful thinkers. Costa et al., (2014, p. 85–91) mention principles such as "listening to others with understanding and empathy; thinking flexibly; questioning and posing problems; applying past knowledge to new situations; creating; imagining; innovating; and learning continuously".

Peter Senge and his colleagues (2012) suggest that to listen fully means to pay close attention to what is being said *beneath* the words. To be flexible is to change the way we do things or think. According to Costa et al., (2014, p. 86), "Flexible people are the ones with the most control; they have the capacity to change their minds as they receive additional information." In a schooling context the teacher may adapt the curriculum to the learner's pace and bring the workload down to the learner's understanding by providing real and relevant examples. "Flexibility is the cradle of humour, creativity and repertoire." (Costa et al., 2014, p. 86).

It is imperative to encourage questioning so that different opinions can be heard in the classroom and throughout the school. Thus we learn new ways to solve a problem (Ashman & Conway, 2017). By prompting questions learners are empowered to draw on their prior knowledge in the process of acquiring new knowledge. Good schools do not blame students for their failures or strip students of the knowledge they bring to the classroom (Kincheloe, 2008).

Costa et al. (2014, p. 88) argue as follows:

> When confronted with a new and perplexing problem, they will often draw forth experience from their past. They call on their store of knowledge and experience as sources of data to solve each new challenge; furthermore, they are able to abstract meaning from one experience, carry it forth, and apply it in a new and novel situation.

Many institutions of teacher education try to create a fruitful teaching environment through collaboration with professional development schools (Darling-Hammond, 1994). Schools can become successful if they allow for more creative ideas from stakeholders. “Creative people take risks and frequently push the boundaries of their perceived limits. Creative people are open to criticism and they are always seeking feedback in an ever-increasing effort to refine their technique.” (Costa et al., 2014, p. 90).

Boosting imagination elicits the creative side of learners so that they put themselves in control in order to obtain their goals. Teachers who are lifelong learners allow themselves to grow along with their learners. We cannot teach in the same way to every learner, thus we need to find new ways of teaching. “Teachers can learn from learners and their confidence, in tandem with their inquisitiveness, allows them to search constantly for new and better ways. People with these Habits of Mind are always striving for improvement, growing and learning” (Costa et al., 2014, p. 91). The Habits of Mind disposition enables learners to reflect on, assess, adapt, transmit and apply what they have studied and make it the norm.

The literature (Moolla, 2014; Green, 2014; Turner, 2017) suggests that cognitive education is on the rise as the Thinking Schools movement gains momentum: more schools and individuals test the teaching of thinking in order to see if it improves results. Most teachers believe that they can change learners’ perceptions and that the latter can be taught how to think, in most countries this may be the case, but in South Africa not so overtly. The positive is that followers of a movement that teaches thinking are persistent and concise. Through mediation and collaboration with other schools this movement can be embedded in surrounding communities. Currently, the active teaching of thinking has limited attention at mainstream schools as teachers are preoccupied with completing their curriculums and preparing learners for exams (Moonsamy, 2014).

To summarize: teaching thinking is time consuming, and doing so is mostly initiated by a few teachers who strive for lifelong learning. Problems arise when the teaching of thinking is not done on a whole-school basis in which all stakeholders are aware or involved. To foster a thinking culture, staff members at a school have to go for regular training to stay abreast of information relating to cognitive education. They also need to become more effective thinkers themselves. Teaching thinking is a long-term initiative.

2.4 Curriculum Leadership Practices in Thinking Schools.

It is often thought that all schools are Thinking Schools, because it is assumed all learners and teachers think in schools: however, not all schools pay overt attention and focus on teaching practical thinking “tools”, deep-level learning (constructing complex understandings and critical notions) and metacognitive awareness.

The role of the principal and the SMT is to enable and support (provide assistance and direction) (PAM, 2016) to the cognitive facilitator of a Thinking School so that it can grow from strength to strength. “Thinking Schools need to demonstrate ownership and commitment

to their own development early on," argues Moolla (2014, p. 76). It will take a collective effort from all participants in the school.

Developing a Thinking School requires that curriculum leaders use a whole-school approach, where all the relevant role players are involved in the decision-making process and everyone shows a commitment to the new programme or plan (Mogren, Gericke, & Scherp, 2019). The whole-school "development requires a multilevel approach, incorporating various subsystems in an attempt to engage all aspects of the school in working together to ensure the provision of high-quality, innovative education" (Moolla, 2014, p. 64).

The curriculum leader's role entails "the infusion of cognitive education across all areas of the curriculum in order for today's students to achieve meaningful progress and become autonomous problem solvers in their future lives" (Martin & Schein, 2013, p. 19).

To develop and improve a learning culture the curriculum leader needs to create an effective policy programme at the school (Fullan, 2003; Pont, 2020). The school principal and SMT members should oversee that development and involve others in leading the learning culture. Collett and Green (2017) argue that school leaders need to know about the theory and practice of cognitive education in order to support their colleagues and lead curriculum development.

They should also share the responsibility with the rest of the staff and the community, to make it inclusive so that all stakeholders enjoy a sense of ownership (Bush, Bell & Middlewood, 2019). Involving surrounding communities and parental opinions and views in the school's decision making can bring change, starting at home. Shared leadership is "a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organisational goals, or both. This influence process often involves peer, or lateral, influence and at other times involves upward or downward hierarchical influence." (Pearce & Conger, 2003, p. 1). Curriculum leaders would ensure the usage of special lesson plans, which would help a teacher to use resources, time, supplies and strategies at an optimal level (Iqbal, Siddiqie, & Mazid, 2021). School and curriculum leaders need to enable and support the Thinking School concept: to do this they need to have a whole-school approach and employ subject-specialist teachers. The school as a whole organisation needs to have a real stake (opinion) in the development process. Martin and Schein (2013, p. 27) elaborate:

> The principal's responsibilities will include: providing enthusiastic support for cognitive education; facilitating teacher interaction by providing for regular grade-level meetings around cognitive education; enabling teachers to participate in needed continuing professional development by providing the needed release time; coordinating the process of assessing student outcomes from the cognitive approach; and facilitating teachers' peer-coaching activities. The principal is expected to be a participant in all of the teachers' professional development activities connected with cognitive education.

Through professional learning communities, curriculum leaders can flourish and reach all relevant role players of the school. Schools cannot truly be learning communities if they are not thinking communities (Green & Collett, 2021). Professional learning communities need to

be driven from inside as well as from outside the school, and this engagement can either enhance the process of organisational and individual learning or constrain it.

I will elaborate on each of the curriculum leadership aspects/dimensions that ensure active practices of thinking take place at the school and classroom level. Some of the curriculum leadership dimensions in conventional schools are similar to those in Thinking Schools: however, in Thinking Schools these dimensions are more detailed, carefully planned and embedded, so that active teaching of thinking that leads to deep-level learning can take place. The table below summarises a number of these key dimensions of curriculum leadership in Thinking Schools.

Table 2: Key Dimensions and Roles of Curriculum Leadership in Thinking Schools

Dimensions	Curriculum Leadership Practices in Thinking Schools
Enhance Organisational Conditions for Learning	Curriculum leaders should ensure that the conditions for learning are suitable and that all available cognitive resources are present (Burden, 2011). A strong focus should be given to cognitive education (Burden, 2011). Curriculum leaders in Thinking Schools enhance the conditions for learning by paying attention to the physical environment (class size and arrangement of desks) (Amedeo & Dyck, 2003). The emphasis should be to make thinking visible (Ritchhart, Church, & Morrison, 2011; Ritchhart & Church, 2020) and arrange desks to enhance enquiry. Resources such as special packages should be utilised to enhance teaching, and Thinking Maps and technology should be incorporated to enhance learning and also all staff members are able to engage with the tools collectively and on their own (Takase, Yasunaga, & Shiota, 2020). "From the ecological perspective, curriculum innovation, whether it is mandated or not, has multiple interfaces at the societal, institutional and instructional levels. Hence, we argue that when implementing curriculum innovation, it is pivotal to understand the ecology of the system in addressing the knowledge gaps, such as understanding the learning needs of the students in order to provide adequate intellectual challenge." (L. Tan, Koh, Lee, Ponnusamy, & K. Tan, 2017, p. 6). Connecting with the parents and the wider community includes parents/guardians in the decision-making process and broadens their understanding of cognitive education (Maponya, 2015; Perkins & Reese, 2014). Burden (2011), Maponya (2015) and Perkins and Reese (2014) all indicate that curriculum leaders in Thinking Schools should ensure that cognitive resources are present in classrooms and throughout the school. They should build a positive school climate and they should also make thinking visible in classrooms. They should make sure every learner is involved in the school's journey and that learners have the space to express themselves.
Lead, Plan and Organise the Curriculum	Curriculum leaders in Thinking Schools should involve the cognitive educator in organising and implementing the curriculum throughout the school (Burden, 2008). Yukl (1994, p. 30) maintains that "organising practices employed by curriculum leaders in Thinking Schools should identify long-term objectives and strategies and determine approaches to accomplish projects or activities".

	Curriculum leaders in Thinking Schools should make a strong and unbreakable commitment to cognitive education (Hompashe, 2018). "The principal shows conspicuous commitment to the innovation, advocating it, making it a priority, defending it against critics, explaining it to parents, appearing for key events, and allocating resources: it's no surprise that leadership plays a central role in change. The literature in both education and the corporate world emphasises the importance of leaders inspiring and guiding initiatives." (Perkins & Reese, 2014, p. 44). Burden (2008) states that thinking strategies and skills will be presented through an action plan. Curriculum leaders "are facilitators in the sense that they are able to assist others in the teaching and learning process, and are able to demonstrate teaching techniques in the classroom and during general meetings with teachers" (Manaseh, 2016, p. 37). Learner-performance levels, assessment tasks and activities – and also examination results – should be used by curriculum leaders to set aims and objectives and stimulate curriculum developments: Manesh (2016) says this should help them set goals. Detailed records should be kept as evidence-based planning is at the heart of planning the curriculum (Brolund, 2016). A shared moral purpose is facilitated to develop teachers and learners as thinkers in order to make good judgments about their own learning and about life and social issues. Setting direction should allow for commitment to the goal of developing a Thinking School: "Establishing a vision and setting goals will help to steer the school toward higher student achievement." (Brolund, 2016, p. 42). Actively using a whole-school development approach develops a Thinking School. Curriculum leaders should make sure that the school and its learners thrive in the forthcoming and futuristic economy and that difficult problem-solving abilities and critical thinking are the two chief abilities to focus on in order to maximise future potential (Yahya, 2017). The coordination of teaching and learning ensures that staff and the broader community are in constant dialogue about thinking and how to teach it: staff collaborate to work on planning for enhanced thinking skills; staff should also involve learners and parents in the design of the curriculum; arranging the curriculum to plan for cognitive education programmes and infusion of CAPS. Lieberman and Mace (2008) emphasise that teacher education is the crucial factor to enable reform in education: curriculum leaders should grant teachers "access to people with the expertise to deliver the knowledge" (Brolund, 2016, p. 43). Maponya (2015, p. 5) says curriculum leaders should "involve all stakeholders in supporting the school, i.e., parents and the community". Curriculum leaders build on an evidence base that helps the practices of teachers to enhance thinking. Curriculum leaders in Thinking Schools should plan to develop the capacity of parents/guardians and they should participate actively in professional development (Lambert, 2002; Sibanda, 2017). Curriculum leaders should ensure the school has "worked with and held information evenings for parents and board members to learn about a new initiative, with teachers demonstrating the framework in action" (Perkins & Reese, 2014, p. 45). Negotiating and adopting a professional development plan enhances cognitive development (Hompashe, 2018). Curriculum leaders need to ensure that the instructors are knowledgeable in fostering classrooms and an atmosphere that

	stimulates critical thinking (Sungur & Tekkaya, 2006). Curriculum leaders should "send a few teachers each year to a summer institute where they learned about the initial framework. However, the school also takes care to ensure alignment across the faculty, a school leader explained." (Perkins & Reese, 2014, p. 43). Curriculum leaders will have to ensure that the "new hires are to receive some orientation to the innovation" (Perkins & Reese, 2014, p. 44). The curriculum "leader manages the programme on the ground, organising faculty groups and events and conducting some training and coaching" (Perkins & Reese, 2014, p. 44). Curriculum leaders in Thinking Schools should also develop and share leadership (Lambert, 2002), and "delegated responsibility and allocated time for practical visionaries are essential" (Perkins & Reese, 2014, p. 44). Baumfield (2017, p. 122) writes that "establishing an integrated cycle of collaborative inquiry and knowledge building was the optimal means of promoting teacher development". Curriculum leaders connect with the wider community to draw parents and guardians in as partners in professional learning communities. Curriculum leaders should provide learners with opportunities "to associate with and be mentored by people from different fields in industry and institutes of higher learning, to conduct research and explore a topic in greater depth, and to learn more about current affairs and different cultures" (Tan et al., 2017, p. 8). Curriculum leaders should ensure the cognitive educator is part of the designing and decision-making panel when planning the programme. They should set up long-term objectives and they should have a strong commitment to the vision and mission of the school. Thinking strategies and skills will be presented through an action plan. Learner performance levels, assessment tasks and activities – and also examination results – should be used by curriculum leaders to set aims and objectives. Curriculum leaders in Thinking Schools should plan to develop the capacity of parents/guardians. They should negotiate a professional development plan to enhance cognitive development.
Supervise and Improve Teaching, Learning and Assessment	A wide variety of thinking-skills programmes should be implemented in classrooms and deep-level learning should be stimulated (Burden, 2008). Teaching should implement carefully selected thinking-skills programmes (Burden & Nichols, 2000; Costa & Lowery, 2016); actively mediate thinking strategies, "in which the teacher will lead, guide, ask important questions, and/or demonstrate" (Martin & Schein, 2013, p. 319); actively model thinking skills and strategies; and enhance cognitive education with a range of pedagogical methods. Curriculum leaders should support teachers in bringing in new ideas and trying out new methods to enhance thinking (Burden, 2008, Le Fevre, & Robinson, 2015). "It is encouraging to note that some school principals in Singapore have already exercised their discretion to introduce the timeout system to allow teachers more time for research and lesson planning. A school principal of one such school noted the importance of free time for teachers." (Tan, 2006, p. 10). "Giving teachers time off to do this has an important impact on development of materials and coming up with effective pedagogies. It's worth the time." (Mrs Teo Khin Hiang, quoted in "Weekly days off for lesson research", *The Straits Times*, 23 Sep 2005). "Films (technology) can be another excellent source where students are stimulated to reflect critically on the issues raised in the film and intellectual

	games are also recommended with their own set of rules which permit open disagreement." (Video, picture) (Tan, 2006, p. 10). Learning: Active participation in lessons and classroom discussions is necessary (Oros, 2007; Johns, 2015; Kangas, 2016; Feuerstein, R; Feuerstein, R, & Falik, 2015). Learners should question information, and they should reflect on lessons and on assessments (Wiboonwachara, 2019). Curriculum leaders should "encourage schools to 'teach less, learn more'. The aim is for teachers to teach better by engaging the students and preparing them for life, rather than merely teaching more for tests and examinations." (Tan, 2006, p. 9). Curriculum leaders should enable group discussions as it is seen as important: "This includes group work where the group presents the answers to the class, thus avoiding the embarrassment and sense of isolation if individual students were to present" (Tan, 2006, p. 10). Teachers ought to facilitate learners into reading scripts from various views and standpoints and being able to assess and analyse those scripts from author's bias, credibility, and quality of reasoning standpoints (How & Wig, 2017). The Curriculum leadership "encourages the learners to actively participate in their own educational process by using thinking strategies (habits of mind) to question what they are being taught and to enhance the reasoning skills" (Alhamlan, Aljasser, Almajed, Almansour & Alahmad, 2018, p.31). They have to converse about their prior knowledge and experiences. They can help the teacher improve lessons by giving feedback. Brolund (2016), Perkins and Reese (2014), Lambert (2002) and Tan (2006) mention that curriculum leaders should ensure that a wide variety of thinking-skills programmes should be implemented in classrooms and deep-level learning should be stimulated in class. They should promote the active mediation of thinking strategies; active modelling of thinking skills and strategies; and a range of pedagogical methods to enhance cognitive education. Curriculum leaders should support teachers to bring in new ideas and try out new methods to enhance thinking. Curriculum leaders should ensure that technology is used in the classrooms to ensure a visually stimulated experience. Curriculum leaders should encourage schools to "teach less, learn more". Curriculum leaders should also enable group discussions.
Engage in Evidence-Based Monitoring and Evaluation	Monitoring is the checking and inspection of the progress of any school programmes and plans. The information obtained through monitoring is used for evaluation. Evaluation assesses the positives and negatives of any completed programme or project. Evidence-based monitoring and evaluation should be employed (Brolund, 2016). A rating against the Thinking Schools criteria should be done quarterly (Burden, 2006). Learners should be involved in the evaluation process and the cognitive coordinator should visit classrooms to observe and give feedback on the teaching of thinking (Burden, 2008). Curriculum leaders should "investigate how teachers have adjusted curriculum and instruction to foster critical thinking among students and to what extent the system has achieved the broadest goals of education by engaging students on critical thinking" (Tan et al., 2017, p. 4). According to Perkins and Reese (2014, p. 43), "Allowing for individual implementation of the framework with frequent feedback from colleagues was a common theme among several leaders we surveyed." Disciplined dialogue and reflection is imperative to get a better picture of what is really happening in the school. The practice of reasoned dialogue and metacognitive awareness accompanies all monitoring and evaluation processes,

	allowing for clearer communication on what is lacking and where things can be improved. External evaluations are used to draw attention to the thinking process used in the school (Nevo, 2001; Schildkamp, Poortman, Luyten, & Ebbeler, 2017). A range of taxonomies are used to reflect critically on the quality of assessment tasks, and inquiry in the school (Venter, 2005; Abosalem, 2016). Regular and ongoing reflection on the quality of cognitive education is the norm. Curriculum leaders should then ensure that deepened dialogue on specific issues occurs frequently, especially during meetings and subject gatherings (Spare Wheel planning and evaluation model) (Burden, 2008). Curriculum leaders should ensure that teachers meet regularly "in small groups to discuss experiences" (Perkins & Reese, 2014, p. 44). They should also support the teachers (Brolund, 2016). Curriculum leaders should make sure that "they hold regular yearly events to share practice" (Perkins & Reese, 2014, p. 46). Curriculum leaders rely "on schemes of work, lesson plans, subject logbooks and class journals to monitor classroom teaching. Heads of school also held meetings with class teachers and asked students about the extent of syllabi coverage." (Manesh, 2016, p. 39). Curriculum leaders should also ensure that "teachers inculcate not just thinking skills but attitudes and dispositions in their students. Proponents of critical thinking regard certain dispositions as essential to a critical thinker." (Tan, 2006, p. 8). According to Perkins and Reese (2014, p. 45) curriculum leaders should begin "by ensuring that all teachers are broadly aware of the initiative and target framework, for instance, through a whole-school introductory workshop. It continues by keeping all faculties broadly aware of progress, for instance, through quick reports; posting student work on bulletin boards in classrooms and halls; and yearly 'fairs' in which participating teachers share their work." Curriculum leaders should also ensure "the innovation gets written into the DNA of the school, into the mission statement; communications to students and parents; formal documents that describe the school's teaching and learning commitments; hiring practices for new teachers and even new principals; and staff positions such as the practical visionary." (Perkins & Reese, 2014, p. 45). According to Perkins and Reese (2014, p. 46), "The main point is that teachers like talking about teaching. So with a shared language and a shared approach there is loads of room for talking. It brings teachers out of their classrooms, their grades and their departments, and creates a more collaborative schooling environment." Curriculum leaders should foster this environment among staff. Curriculum leadership in Thinking Schools should ensure that evidence-based monitoring and evaluation is employed. A rating against the Thinking Schools criteria should be done quarterly. Learner feedback should be prioritised (Burden, 2008). Curriculum leaders should investigate how teachers have adjusted the curriculum. External evaluations are used to draw attention to the thinking process used in the school. A range of taxonomies are used to reflect critically on the quality of assessment tasks. Curriculum leaders should then ensure that deepened dialogue on specific issues occurs frequently, especially during meetings and subject gatherings. They should also support the teachers. The curriculum leaders should ensure that staff share a common language and that communication stays open between members of staff (Burden 2008; Reese & Perkins, 2014, Brolund, 2016; Tan 2006).

Disciplined dialogue and reflection	Becoming a Thinking School means introducing the tools and strategies that enable effective, disciplined dialogue and reflection and making this a whole-school norm. Curriculum leaders in Thinking Schools need to engage with discipline dialogue, which is about embracing professional and trained conversations that are clearly focused on the moral purpose of schools (Dempster, Townsend, Johnson, Bayetto, Lovett, & Stevens, 2017). Disciplined dialogue and reflection are found throughout the dimensions of curriculum leadership at the Thinking School, as they are interwoven with all aspects of this leadership, thus making dialogue and reflection key to leadership roles. These dimensions inform others – and at their centre is the moral purpose. Swaffield and Dempster (2008, p. 107) comment as follows on the scaffolding of professional conversations: > "They are not trivial, trite, piecemeal or sporadic. They are not derogatory, censuring, destructive or coercive. They are positively focused on the moral purpose of schools and they are all-embracing. Conversations are not irrationally based on stereotype or hearsay, but on reason and values, stimulated by helpful qualitative and quantitative data. In this sense they are constructive conversations carried out in 'disciplined dialogue'". The vision and values of cognitive education are surrounded by disciplined dialogue and reflection. Within a Thinking School disciplined dialogue is ensured through constant use of Habits of Mind, Thinking Maps, P4C, and other thinking strategies; embedding related language throughout the school; and being committed to the common goal of enhancing the learner's cognitive abilities (Green 2014; Moolla, 2014). Staff support is paramount in keeping conversations on track and enabling teachers to grow in their teaching of thinking. Leaders should review "curriculum materials to ensure that [those] used at school are relevant and of high quality" (Manesh, 2016, pp. 42–43). The reflection process is also key to assessing the journey; improving cognitive planning; measuring effectiveness of the cognitive programmes and strategies used; and helping to monitor and investigate staff's progression in teaching thinking (lessons) and using thinking strategies. Reflection helps to decipher the school's overall environment. It can also help curriculum leaders to gauge the sentiment of learners and involved community members (Prestia, 2019). Reflection can also help curriculum leaders to get detailed feedback from teachers in order to improve the cognitive teaching experience of every staff member. Reflection helps leaders ensure that teachers enable the learners' metacognition, which will "help students to reflect on the mental processes which they have used, such that they will gradually become independent problem solvers due to acquiring awareness of their own mental powers" (Martin & Schein, 2013, p. 319). Curriculum leadership in Thinking Schools uses disciplined dialogue and reflection to gather evidence-based sources in order to cultivate, plan, teach and monitor the thinking methods being used (Dempster, 2009). Curriculum leaders in Thinking Schools engage in discipline dialogue by embracing professional and trained conversations that are clearly focused on the moral purpose of their schools. Within a Thinking School disciplined dialogue is ensured through constant use of the Habits of Mind and Thinking Maps;

	embedding the language throughout the school; and being committed to the common goal of enhancing learners' cognitive abilities. Leaders should ensure that curriculum materials are relevant and of high quality. The reflection process is also key to assessing the journey: improving cognitive planning; measuring the effectiveness of the cognitive programmes and strategies used; and helping to monitor and investigate staff's progression in the teaching of thinking (lessons) and use of thinking strategies. Reflection can also help curriculum leaders obtain detailed feedback from teachers in order to improve the cognitive teaching experience of every staff member. Curriculum leadership in Thinking Schools use disciplined dialogue and reflection to gather evidence-based sources in order to cultivate, plan, teach and monitor the thinking methods being used (Martin & Schein, 2013; Dempster et al., 2017; Green 2014; Prestia, 2019).

In conclusion, the task of leaders in Thinking Schools involves many of the broad principles of leadership for school improvement. The difference is that they apply these principles to a particular way of understanding teaching and learning.

The following conceptual framework is based on my review of the literature on curriculum leadership in conventional schools and curriculum leadership and cognitive education in Thinking Schools. It draws on the work of Dempster (2009), Henderson and Gornik (2007) and Perkins and Reese (2014). The work of Feuerstein (1980), Burden (2008), Green (2014) and Martin and Schein (2013) is also used. This summarises the key elements and dimensions of curriculum leadership roles in conventional and Thinking Schools. I will use this framework to inform my data collection and analysis.

APPENDIX K (Conceptual Framework: Dimensions and roles of curriculum leadership in conventional and Thinking Schools)

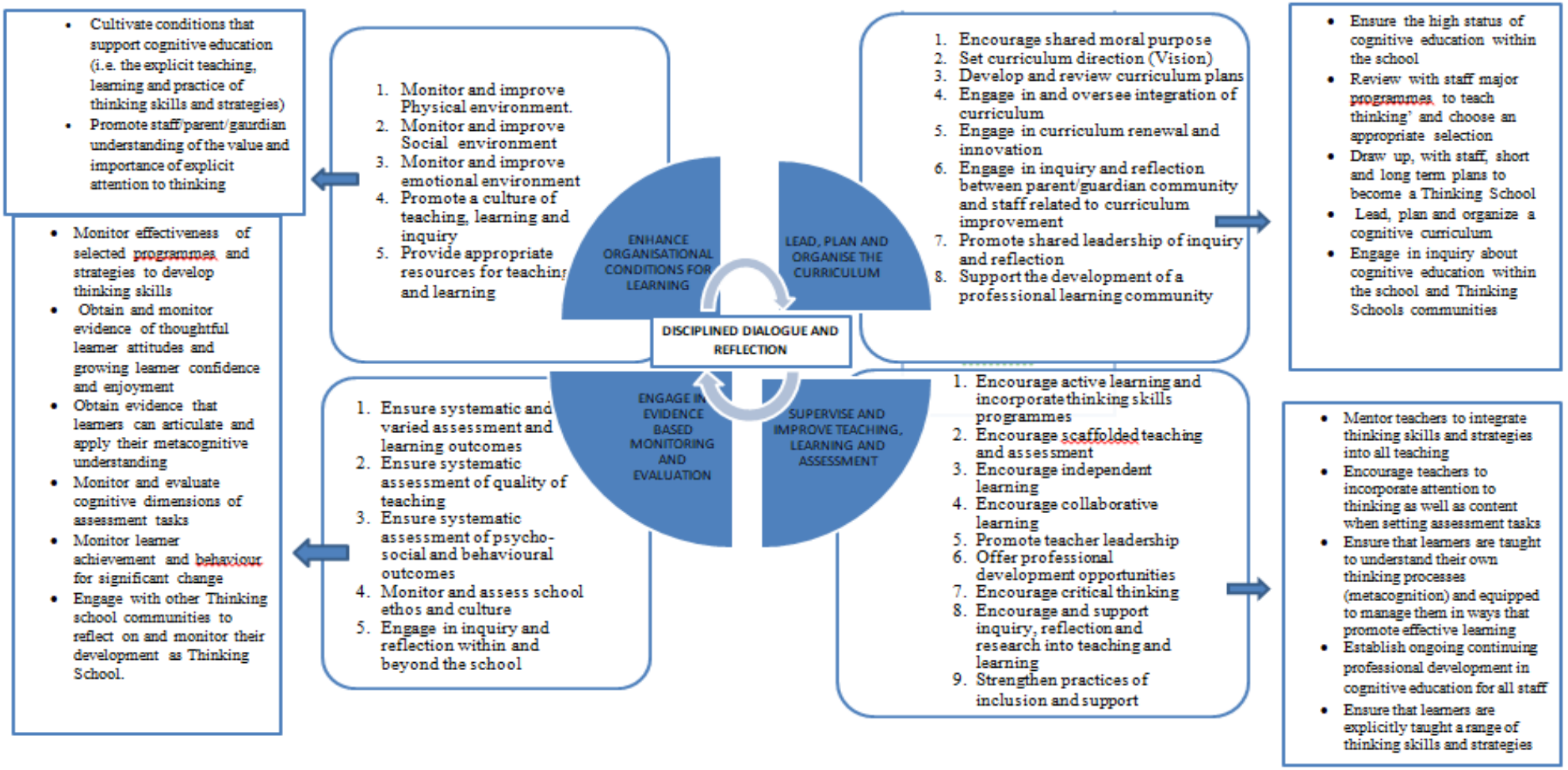


Figure 1: Conceptual Framework

2.5 Conclusion

The research to date indicates that the Thinking Schools movement emphasises the enabling of effective independent learning through better understanding of how to think; how to learn; and how to make better use of your own thinking processes. In this chapter I reviewed literature related to curriculum leadership in conventional schools. I also discussed curriculum leadership roles, approaches and responsibilities. Then I provided an overview of curriculum leadership dimensions.

I went on to discuss the Thinking Schools movement, its South African context, and cognitive education's role in schools. I deliberated on the theory that underlies the notion of learnable intelligence and key research that supports it. I discussed the practices employed to teach/mediate thinking. I reviewed some better-known practices in the teaching of thinking. I gave an overview and explanation of curriculum leadership practices in Thinking Schools and concluded with a presentation of my conceptual framework.

In the next chapter I discuss my research methodology.

Chapter 3

Methodology Chapter

3.1 Introduction

This chapter sets out my research methodology. It also explains the interpretive philosophical paradigm and its accompanying knowledge claims. The research approach and design will be discussed with their accompanying strengths and limitations. Information on the site and participants, demarcation of the study, and the criteria for inclusion in the research is provided. The pilot study is clarified. The research instruments and data collection methods are described. Furthermore, this chapter will also consider the trustworthiness of both the data-collection and data-analysing processes. The methods used to analyse the data are described. Lastly, the ethical considerations that were addressed in the research process are discussed.

3.2 Philosophical Paradigm and Philosophical Assumptions

In this study I draw on a philosophical orientation that is aligned with an interpretivist stance. Interpretive research states that meaning is created through social interaction: according to Myers (2009) and Aliyu, Singhry, Adamu and AbuBakar (2015) access to reality (given or socially constructed) is only through social constructions such as language, consciousness, shared meanings, and instruments. The world is complex and dynamic. We construct, interpret and experience the world through our interactions with each other and with wider social systems. This can be seen as the nature of reality. For an interpretivist researcher it is important to understand motives, meanings, reasons and other subjective experiences that are time and context bound (Hudson & Ozanne, 1988; Neuman, 2000). Interpretivism understands knowledge through perception, which is socially created.

Research does not happen in an isolated bubble in which social interaction does not play a role in creating meaning. I do believe that knowledge is socially constructed. Interpretivist philosophy aims to explore and create meaning; therefore, I made the ontological choice that this study would be informed by an interpretivist point of view. Truth evolves through an exploration of participants' differing experiences and understanding of curriculum leadership in Thinking Schools.

Epistemologically I draw on an emic approach. This acknowledges the lived experience and self-understanding of participants, which makes their interpretations valid and countable as real knowledge. "Thus from the interpretivist perspective, knowledge constructions are understandings from inside the meanings of participants and therefore also embody those persons' contextual meanings." (Hiller, 2016, p. 103). Hiller (2016, p. 103) also states that "no interpretation is privileged over another; no interpretation is a definitive one". Nonetheless, I justified the participants' claims with evidence and treated the knowledge I constructed as provisional. Furthermore, to confirm participants' claims as real knowledge or trustworthy I compared the participants' answers and the information they provided, to ensure triangulation of the findings through multiple pieces of evidence and links. Knowledge is based not only on

observable phenomena, but also on subjective beliefs, values, reasons, and understanding (Aliyu et al., 2015). What counts as knowledge extracted from this research is augmented by the fact that multiple sources were explored.

3.3 Research Approach

A qualitative research approach is used in this study as it involves human interaction and does not include numbers or statistics. My research question aimed to explore the lived experience of teachers and school leaders in a Thinking School in relation to how curriculum leadership was taken. A qualitative approach thus afforded me an expression of people's thinking and viewpoints. This approach gave a voice to people's opinions and insight into fundamental reasons, views, and inspirations (Hammarberg, Kirkman & de Lacey, 2016). The qualitative approach is utilised to answer the 'why and how' of people's experience, behaviour and opinions. "This means that qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them." (Denzin & Lincoln, 2005, p. 3).

A qualitative approach and the knowledge acquired by qualitative researchers, according to Cresswell (2003), is one in which the inquirer often makes knowledge claims based primarily on constructivist perspectives (i.e., the multiple meanings of individual experiences, meanings socially and historically constructed, with an intent to develop a theory or pattern). Carson, Gilmore, Gronhaug and Perry (2001, p. 5) affirm that "knowledge acquired in this discipline is socially constructed rather than objectively determined". Through a qualitative approach the researcher can add value-laden questions, which may lead to new theories and build on existing information, and "it provides insights into the problems" (DeFranzo, 2011, para. 2). Qualitative research generates an understanding in researchers and also in readers, so that they can create sense in their worlds and make sense of certain situations.

A qualitative approach entails constructivist knowledge assertions, ethnographic design, and surveillance of actions. In this state the researcher seeks to create the meaning of a social phenomenon from the view of participants (Edirisingha, 2012). The approach is also described as an unfolding model that occurs in a natural setting and enables the researcher to develop a level of detail from high involvement in the actual experience (Creswell, 1994). This approach helps me to identify actual experience, as the participants are the ones with the knowledge: it helps me to obtain the views and opinions of the participants – and all of this through social conversation and dialogue.

3.3.1 Research Design

This study used a case-study design of one primary school site in the Western Cape. Within this site or "case" I explored the curriculum leadership role of senior management –principal, head of department (HOD), cognitive facilitator and selected teachers – in enabling the school to function as a Thinking School.

A qualitative case study research entails the gathering of information about a particular site or setting. “Qualitative case study is a research methodology that helps in exploration of a phenomenon within some particular context through various data sources, and it undertakes the exploration through a variety of lenses in order to reveal multiple facets of the phenomenon” (Baxter & Jack, 2008, p. 544). The value of a case study comes through a researcher being “able to go beyond the quantitative statistical results and understand the behavioural conditions through the actor’s perspective” (Zainal, 2007, p. 1). The researcher is based within the study and in the context of the site or setting. Tellis (1997) argues that a case study helps clarify both the result and procedure of an occurrence through observation, analysis, and enabling a researcher to focus on more than one situation. Through observation, new ideas are explored and generated, and “case studies are often used for inductive exploration of yet unknown phenomena, i.e., theory generation” (Gammelgaard, 2017, p. 910).

Case studies are frequently branded as too time-consuming and problematic to conduct and are also criticised for the lack of rigour and biased interpretation (Yin & Moore, 1987; Yin, 2013; Zainal, 2007). Some discoveries may be difficult to explain if the researcher does not have any learning or experience inside that specific area, and getting an entrée into an area may be difficult (Hodkinson, & Hodkinson, 2001; Reis, 2009).

Two schools were initially identified as research sites; however, one school had to withdraw at the last minute due to COVID-19 conditions. This was a setback, as I could not do a comparative case study. Thus I had to revert to a case study of an accredited Thinking School. This case study site is credible and applicable to the aims of this study. No learners were involved in the study. In my case no physical visit was permitted to The Thinking School as we were still experiencing the COVID-19 pandemic and working under lockdown conditions. I made use of online digital questionnaires and Google Meet to gather information, since I could not gain entry to the research site.

3.4 Selection of the Research Site and Participants

The site identified for this research was one primary school in the Western Cape that identified itself as a Thinking School based on Burden’s (2008) criteria for accreditation of Thinking Schools. This school is referred to in this study as The Thinking School in order to protect the identity of the participants. A description of the case-study school is provided in Chapter Four. The participants in the case study were purposefully selected, as there are a limited number of Thinking Schools and not all members in a Thinking School are considered curriculum leaders. The Thinking School is known for providing its learners with a dynamic all-round education that serves as an excellent platform for future success at high school.

Participants were selected based on their experience and rank in the school at a senior management level. A further criterion used in the purposive sampling of participants related to their involvement in curriculum leadership and the development of the institution as a Thinking School. Participants selected to be included in this study were the principal; the drive team, or the group that supports the cognitive education coordinator; key HOD; and the cognitive facilitator. In addition, four teachers were randomly identified. The teachers were all volunteers

who wanted to be part of this study. Teachers were not hand-picked by any leader involved in this study, thus the participants provided objective and substance-based answers and opinions. The selected participants provided information both at a whole school and classroom level. Seven staff members participated in the research.

3.4.1 Demarcation of Study

Whilst the effectiveness of cognitive education and implementation of various thinking-skills programmes in Thinking Schools have been well documented, the impact and role of the leadership and management teams at these schools have not been given much attention. My strategic objective in undertaking this study was to identify key curriculum leadership practices that could be used by the school leadership at my school and others to actively promote the teaching of thinking and to inform policy decisions. The aim of my research was also to explore the curriculum leadership roles of the principal and senior management in supporting development of a Thinking School.

The scope of the study was limited to recruiting seven participants between the ages of 24 and 65, who were contacted using their school email addresses. This recruitment period lasted for a period of two months. Each participant in the study was asked to complete a short online digital questionnaire, and the three school leaders were asked to participate in individual interviews. Two focus groups were conducted, consisting of two teachers in each of the focus groups, which were grouped according to their teaching phase. These data collection methods were used in order to evaluate the teachers' roles in a Thinking School and to determine their thinking on the role of management at the school.

The scope of the study placed a limitation on the sample size to be used and the time frame for the recruitment of participants. Another limitation was the restriction of recruitment to a school identified as a Thinking School.

3.5 Research Instruments and Data Collection Process

Research methods are the plans or procedures used in the gathering of information for analysis in order to discover new data or to create an improved understanding in an area of focus (Cresswell, 2014). Kothari (2004, p. 7) explains that "research methods may be understood as all those methods/techniques that are used for conduction of research". In this study I collected data through online digital-survey questionnaires, online focus-group interviews, online individual interviews and documentary evidence. I elaborate on my methods and data collection strategy below, beginning with my data collection strategy and the piloting of instruments.

My data collection strategy was informed by the principle of collecting a broad level of responses from participants. I made use of the inter-method mixing of data collection, which is "the use of more than one data collection strategy in a research study" (SAGE Publications, 2020, p. 181). I did this to ensure multiple sources of evidence to support the triangulation of findings.

Before distributing the survey questionnaire to participants, I piloted my data collection process with the principal of a primary school in the Western Cape. I first sent him the information sheet, consent form and questionnaire. A mock online interview was then set up to test and review the interview questions and process. This helped me to refine and reduce the number of questions asked. Piloting the process in an online environment via Google Meet also helped to develop my interviewing skills. I became more aware of how to probe for more answers and how to proceed with the actual interview. I also learned how to control the interview and how to use time more effectively. This process helped me to anticipate when to send the emails and how to set up dates and times for the interviews and focus groups. The pilot process helped me to enhance the trustworthiness of data collected, as I was able to improve on the effects of the environment, my own role and the role of the participant in the data-collection process. The pilot process made me more confident in interviewing in an online environment. According to Codó (2008, p. 170), "piloting is essential to detect possible flaws in the design of the interview". Janghorban, Latifnejad Roudsari and Taghipour (2014, p. 5) explain: "Running a pilot study makes researchers familiar with unanticipated issues prior to entering the field. Therefore, reflection of lessons learned through a pilot study could result in recognition and reducing the risks."

Being able to interview a principal helped me to build my confidence, both in interviewing and in my study, as a number of the answers I elicited served to confirm findings in the literature I had studied.

I elaborate upon trustworthiness considerations in section 3.7 below.

3.5.1. Online Survey Questionnaire

An online survey questionnaire is one of the primary ways of collecting data. The questionnaire contains questions written in the sequence in which respondents may reply. According to Bell (1999) and Beiske (2002) a survey questionnaire can be efficient in gaining data on values, and the data can also be gathered at little cost. In addition, such a questionnaire may be used to clarify relationships between different traits (Gilbert, 2001).

Illegible responses to a survey questionnaire form one of its disadvantages, as these responses can influence the data quality: questionnaires have to be designed flawlessly to ensure the reliability of the data. Questionnaires also come with a pre-set structure and risk taking up the personal time of participants. (See Appendices C and D; Bell, 1999; Beiske, 2002; Saunders, Lewis & Thornhill, 2003).

The data collection began with electronic distribution of a survey questionnaire (Appendices C and D) to participants. The surveys were completed via Google Forms as the COVID-19 lockdown restricted visits to schools. Using online questionnaires enabled participants to complete the questions in their own time. This ensured they had enough time to read through all the questions thoroughly before answering them. Participants were also able to go back and edit their Google Forms. They also had access to their answers if they needed to check that nothing had been changed or inserted. The surveys were done digitally, which obviated the risk of illegible handwriting. The questionnaires contained both closed and open-ended questions.

Responses were then analysed to identify biographical data and to establish key themes. The online survey questionnaires were administered first to give participants a feel for the focus and scope of the research. This also helped participants to articulate their replies in follow-up interviews, as the online questionnaires had given them time to think about their answers. Analysis of the digital online survey questionnaires enabled me to see where there were gaps in the answers and where I would have to find more information to support the four dimensions of my conceptual framework. This also helped me to find the right probes and inquiries for the subsequent individual and focus-group interviews.

Analysing the online survey questionnaire data gave me a general idea of some of the key issues I needed to probe in the interviews. Seven participants answered the online survey questionnaire.

3.5.2 Interviews

In this section I will describe the interviews used and identify the strengths and weaknesses of this data-collection method. Three semi-structured individual interviews were conducted with each of the participants (see Appendix G). Semi-structured interviews do not follow the rigid list of questions. According to Mathers, Fox and Hunn, (1998, p. 2) a semi-structured interview would "involve a series of open-ended questions based on the topic areas the researcher wants to cover, but provide opportunities to discuss some topics in more detail". Individual and focus-group interviews were conducted a few days after each participant had completed the survey questionnaire. Individual interviews were followed up with two focus-group online interviews, with two teachers participating in each. The participants were teachers and school leaders, so I had to book a date and time when they were available. This meant I had to wait for their responses as to their availability. Teachers were selected in order to obtain a range of opinions, as participants might agree or differ from one another.

Individual online interviews with the principal, one HOD and the cognitive education facilitator took place to probe for further information. The questions from the interviews were used to augment that which was missing from the online survey questionnaire.

The interviews took place through Google Meet as we were subject to COVID-19 restrictions and protocols. The interviews lasted around 15–30 minutes each (this was the amount of time that the participants were prepared to give me) and consisted of four questions. Before I started with each interview I first asked the participant for consent to record the session. The pilot interview had helped me to use the time effectively, and it showed me what questions needed more substance or probing. The mock interview helped me considerably, as the real interviews flowed like normal conversations and the probing came naturally. According to Corbetta (2003), interviews in general achieve a high response rate. Gray (2004) suggests that in semi-structured interviews the researcher is free to mould the discussion as he/she thinks appropriate: extra questions may also be asked and recordings made. Doing the mock interview built my skill and confidence, which also helped to put participants at ease and allow the interviews to run smoothly. The use of Google Meet facilitated access to participants and collection of their data under lockdown conditions. Google Meet created an online space that limited disturbance and helped me and the participants to focus. I was thus able to probe more deeply for responses.

Doing interviews online also helped me schedule interviews at time and place that suited the participants. They felt more relaxed and we were able to build a comfortable rapport.

It is worth noting that because the interviews took place through Google Meet, I could not really pick up participants' body language, and one pilot interview was not enough to sensitise me to certain cues from participants. As noted by David and Sutton (2004) and Kajornboon (2005), inexperienced interviewers may not have the right prompts to questions, and verbal cues from the researcher may cause bias. They add that analysing and reporting on interviews may also be time-consuming. The ability to make voice recordings was assisted by using Google Meet. This did save me time, and provided an accurate record of individual and group interviews that I could transcribe. Participants had the freedom to answer in their own capacity and to check their interview transcripts for accuracy. In order to ensure accuracy, I personally transcribed the interviews and gave them to participants to check. This helped to build trust in the data-collection process as participants could verify and authenticate their responses.

The interviews built on the data collected in the survey questionnaires and deepened the knowledge gained from participants on key topics.

3.5.2.1 Focus-Group Interviews

A focus-group interview (Appendix H) involves bringing together a group of participants and the researcher to engage in a directed conversation on a subject or focus area. They are assembled by a researcher "to gain information about a particular issue" (Williams & Katz 2001, para. 1).

In a focus-group interview, information is provided quicker than in individual interviews, thus focus groups save time and money, provide insights into participants' perceptions and feelings, and enable in-depth probing of issues (Queirós, Faria & Almeida, 2017).

However, "Focus groups can be hard to control and manage. Additionally, it can be difficult to encourage people to participate and, therefore, they may not be representative of non-users." (Queirós, Faria & Almeida, 2017, p. 377). Participants may be cautious about explaining their points of view, particularly when their views are pitted against those of other participants. By pairing teachers from the same grade or phase the researcher can obtain more information. Because the teachers share a common experience they can elaborate on each other's answers. Focus-group interviews were held with selected teachers because they could provide information from inside the classroom and explain how leaders helped them to improve their thinking strategies.

The online focus-group interviews took place through Google Meet because of COVID-19 and its accompanying restrictions. I interviewed two groups. They consisted of two people in each group. I had to split the four participants into two groups, because the time slots did not suit everyone (Focus groups were planned, but because of COVID-19 several teachers weren't able to attend). I then decided to pair those in the same phase together, as doing so ensured time slots that suited both groups. Again, before I started with the questions I first asked participants

for their consent to record the sessions. The focus-group interviews lasted for about 30 minutes each and consisted of six questions (Appendix H).

3.5.3 Documentary Evidence and Analysis

Document analysis is seen as a form of qualitative research in which documents are reviewed by the researcher to measure a topic or specific theme. Bowen (2009) defines document analysis as "a systematic procedure for reviewing or evaluating documents, both printed and electronic material" (p. 27). Document analysis is less time-consuming, offers extensive coverage of documents, costs less than other research methods and is non-reactive (Yin, 1994; Bowen, 2009). Limitations of document analysis include inadequate detail for answering a research question and purposeful obstruction of access to documents (Yin, 1994; Bowen, 2009). I started early with the data collection to give myself ample time for analysis and to create meaning through several cycles of data analysis.

The documents I analysed consisted of public records that schools are comfortable with making available to researchers or visitors. I was granted access to recordings and planning notes related to assemblies, governing body minutes, examples of book checks, and curriculum planning. I also gained access to a selection of staff appraisals; portfolios of evidence; drive-team minutes; accreditation reflective proforma; magazine articles, which enabled me to look at feedback and comments; learner assessments; a 2015 report; examples of exam papers; teacher reflections; the schools support letter; comments on reports; and a staff quiz of 2015. All of this I obtained by engaging with the cognitive facilitator in the interview process. Through this process (interview and exchange of emails) she made these documents available via Google Drive.

The documents I obtained provided much needed background information and broad coverage of data: they serve as evidence to support statements from participants and proved helpful, therefore, in contextualising the interview and focus-group data (Bowen, 2009). The material formed part of an overall document that the school submitted as evidence of its development in becoming a Thinking School. From this I selected information that related to leadership and leadership roles. My selection was based on the amount of information available in the document itself and its connection to the subsidiary questions. I accessed information based on its ability to provide evidence in support of statements by the participants, but the information also had to link to the four dimensions of the conceptual framework.

I created a list and reviewed the documents I wanted to analyse (thematic analysis). According to Bowen (2009, p. 32), content analysis is used as a "first-pass document review" that provides the researcher with a means of identifying meaningful and relevant passages.

After this I accessed the various documents and highlighted the most prevalent pieces of evidence therein that could help augment participants' statements and opinions (thematic analysis). This analysis categorises emerging themes. Themes were created out of the content provided from the interviews, questionnaires and the schools documents. It includes careful, focused reading and re-reading of data, as well as coding and category construction (Bowen, 2009). The document analysis helped me to identify actions, events and certain occurrences at

the school. The documents served as a follow-up to the questionnaires, interviews and focus groups.

3.6 Qualitative Data Analysis and Presentation

I used a flexible framework approach to analysis, which allows the user to either collect all the data and then analyse it or to do data analysis during the collection process (Srivastava and Thomson, 2009). Interconnected stages within the framework approach explicitly describe the processes that guide systematic analysis of data, from the development of descriptive accounts through to explanatory accounts (Smith & Firth, 2011). Central to the analytical processes within the framework approach is a series of interconnected stages that enable the researcher to move back and forth across the data until a coherent account emerges (Ritchie & Lewis 2003).

I used a framework approach because analysis occurred in stages during which the data was charted, sifted, and sorted: it can be confusing to analyse data immediately following its collection. The framework approach gave me ample time for thorough analysis and helped me to avoid misreading or misinterpretation of the data. I performed five consecutive stages of data analysis in the following order: familiarisation; identification of a thematic framework; indexing; charting; and finally mapping and interpretation.

The rigor and quality of my data analysis was built by auditing the data according to the key questions and cross-checking responses from other data sets. The conceptual framework with its key dimensions guided my analysis of the data. I also made use of closed and open coding. In this process one first looks for ideas in the literature or conceptual framework: open coding will then supplement these ideas with information not found in the literature or conceptual framework. This information is usually interesting and unexpected (Carpendale, Knudsen, Thudt & Hinrichs, 2017). In addition, I scanned the data transcripts for any new concepts that might lead to new depths and meaning, thus adding structure and value to my research.

Data analysis can be time-consuming and difficult if the researcher is not well versed in doing case studies. “Analysis of evidence is one [of] the least developed and most difficult aspects of doing case studies” (Yin, 1994, p. 4).

First and foremost, I had to “arrange the data in a manageable format that will facilitate the process of assigning codes and themes to sections of the transcript” (Richmond, 2006, p. 38). I had to familiarise myself with the different questions, the participants, and their respective answers in transcripts of the data collected (i.e., interview or focus-group transcripts, observation or field notes). Through this familiarisation process the researcher gains an overview of the collected data (Ritchie & Spencer, 1994). Initially the questions in the data collection instruments were grouped together in a table (Appendix P) according to their ability to elicit answers to the main and subsidiary questions. This auditing helped me to identify responses throughout my data sets and to organise my data into sets. The auditing helped me to group the questions used in the digital online questionnaire, individual interviews and focus groups as subsidiary or main questions.

Secondly, once I had sorted the data against the main and subsidiary questions, I subsequently "identified a thematic framework, which is the second stage, and it occurs after familiarisation when the researcher recognises emerging themes or issues in the data set" (Srivastava & Thomson, 2009, p. 76). I used my conceptual framework to identify themes and open codes (information not expected) and closed codes (information expected) to facilitate extraction of information from the data that I had collected. The next step was to label or code all the participants so that they could be distinguished clearly in the analysis process (Appendix Q). For example: after each label where the word question (Q) is found, the question number that pertains to that specific topic may be inserted: IQ3–SLC (Interview Question 3–School Leader C); QQ1–T4 (Questionnaire Question 1–Teacher 4).

The next step was to do another audit (Appendix R) that would group the participants' various responses and answers according to the main and subsidiary questions. After completing the individual and focus-group interviews I analysed and grouped information in categories that matched the main and subsidiary questions as well as the conceptual framework.

Based on this I could finally start creating data sets (Appendix S) within my conceptual framework. I had to create data sets which related to indexing of the data. "Indexing means that one identifies portions or sections of the data that correspond to a particular theme. This process is applied to all the textual data that has been gathered (i.e. transcripts of interviews)" (Srivastava and Thomson, 2009, p. 76). The data sets contained specific categories derived from the roles in the four main dimensions of my conceptual framework (Appendix K). Each category was coded with a specific colour in order to identify the source directly from the raw data. As I read through the raw data I assigned it the colour of its linked category. In the end I positioned each data response under a specific category heading. I also inserted the specific respondent's label/code into that same category heading (Appendix K).

The next step entailed the capturing of open and closed coding answers (Appendix S), which was what the leaders actually did at the Thinking School. This approach is also known as charting in the framework, which is the fourth stage. Specific pieces of data that were indexed in the previous stage are now arranged in thematic charts. This means that data is transferred from its original textual context to charts that contain the headings and subheadings of the thematic framework, (Ritchie & Spencer, 1994). The closed coding is information that is expected and the open coding is information that is not expected. Closed coding (information that is expected) is highlighted in the category colour (blue for setting direction) but written in black. Open coding (information that is not expected) is written in black but highlighted blue. I completed this process by combining the open coding, closed coding in one data set under the different subcategories. I also created a new data set that reflects the subcategory that developed out of the data. Then I made specific codes to link the roles of the leaders in the school, and I ended with raw quotes from the participants and added their labels (see Appendix S). I also read through various documentary analyses, extracted various quotes and statements from the respective documents, and placed them under the data sets. I have decided to show all the themes regardless of the quantity of quotes. I even used one quote that reflects a different view.

The data was analysed systematically and is presented in Chapter 4 through summaries to showcase what leaders do at The Thinking School case study as well as responses from participants. All the electronic data was stored in a Google Drive folder to which only the researcher and supervisors have access. This data was also stored on an external hard drive for backup purposes. Some data that I kept electronically was encrypted. The uploading of data to the repository of the University of the Western Cape will be investigated. The documentary analysis was done last to support the statements and opinions of participants. Various documents were analysed and scrutinised.

3.6.1 Data Presentation

The codes and labels I used in the data analysis include The Thinking School to identify the site of research; QQ1–SLC (Questionnaire Question 1–School Leader C); QQ2–SLB (Questionnaire Question 2–School Leader B); QQ3–SLA (Questionnaire Question 3–School Leader A): QQ5–T1 (Questionnaire Question 5–Teacher (1)); IQ3–SLC (Interview Question 3–School Leader C); IQ4–SLB (Interview Question 4–School Leader B); IQ1–SLB (Interview Question 1–School Leader B): FGQ1–T1 (Focus Group Question 1–Teacher (1)). Please note that the question number pertaining to a specific topic may be inserted in each label following Q (for Question) for example: IQ3–SLC (Interview Question 3–School Leader C). (See Appendix Q).

3.7 Trustworthiness and Rigour

Trustworthiness in research refers to the degree of assurance in information and data, analysis, and techniques used to certify the worth and quality of a body of research (Connelly, 2016; Shenton, 2004). I will explain and elaborate on trustworthiness consideration in the data collection, then I will explain trustworthiness in data analysis.

The trustworthiness of research is important as it entails social validity, which means that the findings have to be valid and accurate, as other researchers may one day use these findings based on their trust that the information is valid and true. Researchers should in no way manipulate information to get desired results, which have to be objective in nature. As far as it was possible I avoided bias by making the questionnaire questions open-ended, and I did the same with the interview questions. Probing was done by using examples that did not derive directly from the literature. This was done to help participants when the information placed at their disposal proved to be insufficient. No preconceptions were involved, as this research is a fairly new topic: consequently, I was exploring and analysing that which had not yet fallen under the spotlight.

To address considerations of trustworthiness in my data collection processes, I tried to ensure that the data I gathered was credible and authentic through my selection of Thinking School and participants (leaders and teachers). Then I used multiple data-collection methods to ensure that there were links in the data.

I used qualitative data collection methods (questionnaires, interviews, focus-group interviews and documentary evidence). The limitation of a qualitative approach is that a subjective mind-set may hinder the process of discovering the truth. However, although some truth may be found in facts, it also manifests different perspectives. The researcher may be biased in the way that he or she creates unavoidable questions. "One of the main disadvantages of qualitative approaches to corpus analysis is that their findings cannot be extended to wider populations with the same degree of certainty that quantitative analyses can." (Atieno, 2009, p. 17). To address bias, I had couched the questions in open-ended form, in which the participants were not bound to a specific topic. This made it easy for participants to speak about other relevant information. I also involved relevant role players in my research in order to yield the proper results.

First, participant recruitment was important to ensure credibility of the research results (White, Oelke & Friesen, 2012). The data-gathering instruments were scrutinised, reviewed and piloted to ensure that relevant data was collected and that participants understood the questions.

The semi-structured interview questions focused on components of the overarching research questions and guided the interview process (White et al., 2012). Finally, presentations were made to participants to help ensure the credibility and authenticity of the research results. Participants were allowed to edit their questionnaires, and transcripts of interviews were sent back to teachers so they could verify correctness of the information. The participants volunteered to be part of this study, and because they were not hand-picked by any leader involved in this study they provided genuine answers and opinions. The selected participants provided information both on the whole-school level as well as the classroom level.

The collection process I used was an indirect one, meaning I had indirect contact with the participants through questionnaires, focus groups and one-on-one interviews, which took place online. I used voice recordings to keep track of data and I obtained each participant's consent to record the sessions. The questionnaires were handed out first, and participants were given enough time to read through all the questions thoroughly before answering them. Then I did the individual interviews and focus-group interviews.

3.7.1 Trustworthiness Considerations in Data Analysis

Cross-checking and triangulation of data with the cognitive education journey programme and school improvement plan (SIP) was carried out. Data was analysed using a conceptual framework (Appendix K) derived from theory outlined on pages 5–17.

Attention to research ethics is crucial, Graneheim et al. (2004, p. 110) aver that:

> In qualitative research, trustworthiness of interpretations deals with establishing arguments for the most probable interpretations. Trustworthiness will increase if the findings are presented in a way that allows the reader to look for alternative interpretations.

I was tentative in presenting my interpretations. The participants selected were likely to give the most trustworthy data as they were in a position to deliver curriculum leadership practices

and their experiences were counted as trustworthy knowledge. I made use of purposive selection, because not all staff members in the school are in a leadership position and post-level one teachers could give an objective view on the school's leadership. The voluntary process becomes prevalent, because I did not force any staff member to participate, it was their choice. Data was analysed and scrutinised as given by participants, and the researcher did not edit any data for desired results. "In this form (original as from participants) reliability is a measure of consistency over time and over similar samples. A reliable instrument for a piece of research will yield similar data from similar respondents over time." (Cohen & Morrison, 2007, p.146). The information that was gathered came from both leadership and teacher perspectives. The participants had the opportunity to double-check their answers, and they could also edit the transcripts. I acknowledge, however, that data may change over time in step with altered circumstances at the schools and individual perceptions. This means that if I have used the tools correctly my data offer fresh results that can add to knowledge about my key and subsidiary questions. In addition to stability over time, reliability as stability can also be stability over a similar sample, with the above reservations. However, I did not review my analysis of the data with the participants, I intended to share the analysis with the school, but because of COVID conditions this was not done. Although I do intend to share it with them once my thesis has been submitted and approved.

3.8 Ethical Considerations

The ethics of any research entails behaviour and a set of rules based on notions of what can be considered as morally good or bad. "The awareness of ethical concerns in research is reflected in the growth of relevant literature and in the appearance of regulatory codes of research practice formulated by various agencies and professional bodies." (Cohen & Morrison, 2007, p. 51). These codes are implemented so that the identities of respondents are protected and to make sure no one gets offended or hurt through the research process. According to UWC Research Policy (2009), the ethical guidelines, i.e., "Informed consent, Confidentiality/Anonymity; Veracity [truth telling]" (2009, p. 44) need to be adhered to at all times.

3.8.1 Informed Consent

I obtained clearance from the UWC Ethics Department as well as from the Western Cape Education Department (WCED) (Appendices A and B). Then I approached the selected school's principal and all the participants to get their permission to conduct the research with them and on their site (Appendix J). I ensured that I behaved in an ethical manner by fully informing all stakeholders in my research and gaining the necessary permissions through the consent forms (Appendix D). I also sent them the consent forms, an email explaining my research, and a private voice recording in which I explained why I was doing the research. I met with all participants in a closed online environment in which no one else was involved. I gave them enough time to consider whether they wanted to participate in this research. "Much social research necessitates obtaining the consent and cooperation of subjects who are to assist in investigations and of significant others in the institutions or organisations providing the

research facilities. While some cultures may not be stringent about informed consent, in others there are strict protocols for informed consent." (Cohen et al., 2007, p. 52). An information sheet was discussed with participants and they were presented with consent forms (see Appendix C and D). I also provided them with clearance forms from both UWC and WCED to make them feel more at ease about participating in the research. Participation was done solely on a voluntary basis and participants could have withdrawn from the research at any time.

3.8.2 Respect for Human Dignity

A key aspect of ethical considerations is the respect for human dignity. Protecting the participants from harm is vital, as no one should get hurt, be it physically, mentally or emotionally. In this study no harm was or shall be done, I have not made anyone anxious, and respect was shown at all stages of the research.

My intention was not to invade anyone's privacy. According to Diener and Crandall (1978), the sensitivity of the information being given, the setting being observed, and dissemination of information play a vital role in obtaining participants' permission. Code names have been used in the data analysis. The participants' privacy and autonomy has been a top priority to ensure that there is no harassment by those in positions of authority. Respect for participants, non-maleficence and participants' well-being were maximised. I used non-exploitative procedures to ensure the safety of participants.

3.8.3 Confidentiality

The data will not be made available to external parties and no one has the right to override this confidentiality, thus the privacy of the individual will be protected.

Data is stored on my external hard drive and it is encrypted with a password. All hard copies of transcripts were stored in a safe place (HSSREC, Research Development, Tel: 021 959 4111 and email: research-ethics@uwc.ac.za). These hard copies will be shredded over time and I will be handling all of the data myself. Data will also be stored in UWC's repository, which is password protected.

Cohen et al. (2007, p. 66) assert that:

> Researchers know who has provided the information or are able to identify participants from the information given, they will in no way make the connection known publicly; the boundaries surrounding the shared secret will be protected. The essence of the matter is the extent to which investigators keep faith with those who have helped them.

I will not make the participants' names known and the research participants will only be known to me as the researcher and my supervisors. The findings will be used properly, where the school is involved, as the reporting and distribution of information will be governed by strict rules and autonomy in line with the UWC (2009) research policy and code of ethics.

3.9 Reporting

A research report is the relaying of research findings. I will report the findings accurately, by stating exactly what participants have said. My work will also be submitted to Turnitin to make sure that it is original and accurate. The participants will receive copies of the research report, no privacy or respect will be compromised to obtain desired results, and the reporting will be done appropriately. I may also share the findings with the WCED.

3.10 Conclusion

This chapter has elaborated on the methodology used in this research. This methodological approach has been influenced by an interpretive paradigm. A description was given of qualitative research as an approach for data collection and analysis. The strengths and limitations of the qualitative approach were discussed and also the strengths and limitations of the data-collection methods that were followed. This chapter focused on data about the site and participants, ending with an explanation of trustworthiness in data collection, trustworthiness in data analysis, and the ethical codes that were respected. In Chapter Four I will present my research findings.

Chapter 4

Analysis and Presentation of Findings.

4.1 Introduction

This chapter presents my analysis and interpretation of data from the Thinking School in relation to my research questions and conceptual framework. It begins with a review of my research aims and an overview of the way in which my findings will be structured. I then provide a short description of the school case study. This is followed by a presentation of my findings. The chapter concludes with a summary of key findings on the Thinking School in relation to my key research questions and conceptual framework.

4.2 Research Aims and Overview of the Presentation of Findings

The research aims to explore the curriculum leadership practices of senior management in a school that identifies as a Thinking School. My main research question is: What curriculum leadership practices by senior management support the development of a selected primary school as a Thinking School? In order to answer this question, I engage with the following sub-questions:

1. What do members of senior management understand a Thinking School to be?

2. What curriculum leadership roles do the principal and senior management members play in developing the institution as a Thinking School?

This study highlights leadership and teacher views and perceptions of the curriculum leadership roles of the principal and senior management in supporting the development of a Thinking School. In this chapter I begin by presenting my findings in relation to sub-question one, namely: What do members of senior management understand a Thinking School to be? My findings for sub-question two (What curriculum leadership roles do the principal and senior management members play in developing the institution as a Thinking School?) are presented under four key curriculum leadership dimensions (see Figure 2 below) namely: enhance organisational conditions for learning; lead, plan and organise the curriculum; supervise and improve teaching, learning and assessment; and engage in evidence based monitoring and evaluation.

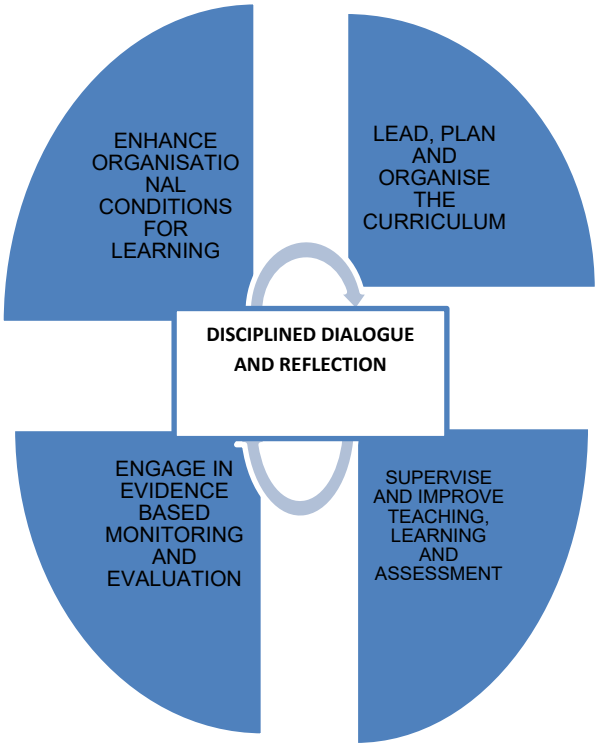


Figure 2. Curriculum Leadership Dimensions in Schools – a Conceptual Framework (the full Conceptual Framework can be found in Appendix K)

4.3 Description of the Case-Study School.

This school will be referred to in this study as the Thinking School in order to protect the identity of the participants. The case study will provide the context of the school; its quintile; history; nature (staff, curriculum, etc).; culture and climate; and its link to the Thinking School movement.

South Africa is a very diverse country, and its schools reflect this diversity in their histories, community contexts and economic status. Schools range from those serving very poor communities to schools that are located in wealthy communities. *"Colonialism and apartheid were predicated on a racially based system of inequality in which the black majority was denied equal educational opportunities and outcomes."* (Badat & Sayed, 2014, p. 128). To address the issue of education inequality, South Africa has classified its public schools into five quintiles for the purpose of assigning monetary income and resources (Dass & Rinquest, 2017; Graven, 2014).

> *The categorisation is based on the socio-economic status of a school and is determined by measures of average income, unemployment rates, and general literacy level in the school's geographical area (Ogbonnaya & Awuah, 2019, p. 1).*

The schools in the most economically disadvantaged (poorest) geographical areas are categorised as Quintile 1 schools and those in the most economically advantaged geographical areas (wealthiest) as Quintile 5 (Hall & Giese, 2009). The Thinking School is a well-established public primary school, categorised as a Quintile 5 school and situated in one of the more affluent suburbs of Cape Town. A Quintile 5 school levies fees from parents who earn good salaries.

The Thinking School has a history of providing its learners with a dynamic all-round education that serves as an excellent platform for future success at high school. The school is dedicated to nourishing a strong ethos and culture of teaching and learning within a value-based learners' schooling philosophy. The school has a general population of 1 000 learners, with a teacher to learner ratio of 1:20 The school has a full complement of staff members with both school governing body (SGB) and Western Cape Education Department (WCED) posts. The Thinking School boasts a staff of highly competent, committed and approachable teachers who have the learners' welfare at heart. The school has a history of retaining its staff members for long periods. Its excellent resources include a modern multimedia library, specialised remedial and enrichment departments and a full-time educational psychologist, which complement the proficiency of the teaching staff. The academic growth and emotional development of the learners serve as a primary focus. The Thinking School is an active campaigner for environmental issues and encourages sound recycling practices within the greater school community and beyond (The Thinking School, 2020).

The school has initiated its Thinking School philosophy in line with development of a thinking culture in every aspect of school life. In embarking on this long and steady process the school has joined other progressive institutions in teaching children and teachers to think and learn as diverse individuals. The school prides itself on having been awarded Thinking School Accreditation status in October 2017 by the Cognitive Education Centre at the University of Exeter in Devon, England.

In 2020 the school had a total of 832 learners, with each class having 26 learners. The school has a strong link with parents, and there is an active parent-teacher association (PTA). The school has a home class teacher who is responsible for the learners' studies in various subjects.

The school's Enrichment programme ensures that learners are assessed using the Paul Torrance Tests of Creative Thinking (TTCT). Selected Grade 4–7 learners attend Enrichment in small groups once a week, which means that they must subsequently catch up on the hour of curriculum lessons they have missed. In 2010 a Managing Change workshop changed the classroom culture away from "talk and chalk". Content delivery became a priority, which led to adoption of the Thinking School framework. Intensive work since then has developed the Thinking Schools pedagogy that is currently in use. All staff are trained and expected to encourage and develop the cognitive principles adopted by the school for every lesson and interaction with learners. New staff appointees require experience in the Thinking School pedagogy.

4.4 Presentation of Findings

The findings will be presented under the two sub-questions. Sub-question one presents senior management's understanding of a Thinking School. Data is presented under a range of themes. Sub-question two will be presented under the four key dimensions that relate to curriculum leadership in conventional schools. Namely, enhance organisational conditions for learning; lead, plan and organise the curriculum; supervise and improve teaching, learning and assessment; and engage in evidence based monitoring and evaluation. The overarching dimension proposed by Dempster (2009) of reflection and disciplined dialogue is included within each of these four dimensions. Each dimension will be briefly explained and data will be presented under each heading (see Conceptual Framework in Appendix K). The subcategories within each of the above dimensions are the leadership roles identified as important in a Thinking School according to the Exeter criteria and drawn from the work of Burden (2008) and Martin and Schein (2013). These criteria are used as category names (for the leadership roles) within which to place the themes I identified in the data (closed coding). If sub-themes (sub-roles) became apparent these were coded using open coding.

4.4.1 Senior Management's Understanding of a Thinking School

This section presents senior management's understanding of a Thinking School. Various themes emerged from data on leaders' perceptions of a Thinking School, including the holistic approach. School leader C mentions "*Holistic Child Development" (QQ4-SLC)* as an aspect of Thinking Schools: *"I think today we see it as a school of holistic learning, so it immediately brings hope and child development into the picture." (IQ2-SLC).*

Another theme presents Thinking Schools as future-driven education. School leader C submits: *"It is far-better geared towards futures in education; acquisition of twenty-first century teaching and learning skills; less content base; technology; [and the] Fourth Industrial Age." (QQ3-SLC).*

Another theme perceived by leaders at the Thinking School is values-driven education for cognition and practice. School leader C states that teachers:

> *use the Habits of Mind … so we as leaders see that the kind of benefit the thinking skills bring to your school … if you look at what the kid, for instance, is talking about, their whole thing is a values-driven education and we want to be part of a larger community …. They are bound together by things like the Habits of Mind (IQ2-SLC).*

Leaders see the Thinking School as a form of critical education, which suggests the theme of critical pedagogy. School leader B explains:

> *I have to think of school as a place where we teach our learners, because that's the school that will teach children to question … not [to] accept at face value … not to wait to be given the answers, and [to] find the answers themselves (IQ2-SLB).*

School leader A says teachers *"encourage questioning and reasoning" (QQ4-SLA),* and school leader A clarifies:

> *As I said we teach the children to think, not just to take stuff at face value. They need to think, they need to question, they need to interpret, um … and they need to understand [you]. Again, as I said they use the Thinking School language, just by talking to their mates and by investigating. We are not just going to put the answers up and say there they are (IQ2-SLA).*

School leader B describes the critical pedagogy in a Thinking School as a method that *"adapts the curriculum to allow for and to develop critical thinking in the classroom rather than just to deliver the curriculum" (QQ3-SLB).* School leader A supports this statement: *"We focus heavily on getting our learners to think carefully and critically on/about material. We teach and encourage them to think flexibly and to try to work things out for themselves." (QQ3-SLA).*

Promotion of critical pedagogy extends into the classroom. School leader B states that this involves a *"deeper understanding of the curriculum, far better engagement from learners, less teacher-led lessons, more collaborative learning and greater teacher enjoyment" (QQ4-SLB).* School leader A explains: *"The teacher facilitates learning rather than doing all the talking." (QQ4-SLA). "There's a lot more noise,"* school leader B adds. *"There's a lot more noise, there's a lot more interaction, there's a lot more conversation, because it is a very collaborative type of learning." (IQ2-SLB).*

The most dominant theme across senior management's understanding of Thinking Schools is that of critical pedagogy, which is used in various ways by school leaders and extended into the classroom. Leaders believe it is possible to learn to think and learn more effectively and that this can be taught. The second dominant theme is that of future-driven education. Senior management believes that the Thinking School prepares learners for the future, not just for jobs, but to bring innovation to the technological era.

The next two themes hold the same weight: senior management believes that the Thinking School concept also develops the child holistically – that the child should grow mentally, emotionally, intellectually, physically and socially. Senior management also believes in values-driven education and that inculcation of the Habits of Mind guide our beliefs, attitudes, and behaviours.

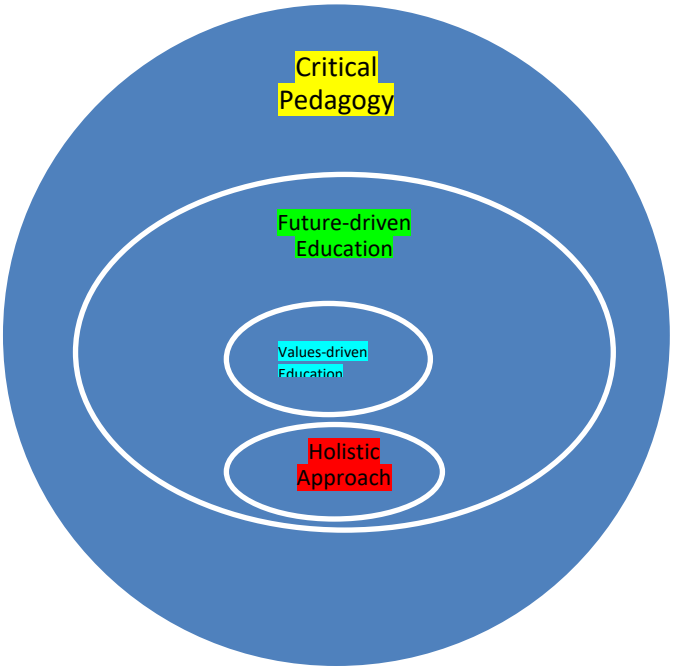


Figure 3. Four Key Themes that Characterise Senior Management's Understanding of the Thinking School

4.4.2 Curriculum Leadership Roles in Developing the Thinking School

The findings related to sub-question two on the role of Thinking School leaders will be presented under the four key dimensions that relate to curriculum leadership in schools. These four dimensions are: *enhance organisational conditions for learning; lead, plan and organise the curriculum; supervise and improve teaching, learning and assessment; and engage in evidence based monitoring and evaluation*. Each of these dimensions are elaborated on below.

4.4.2.1 Enhance Organisational Conditions for Learning

The literature identifies areas that curriculum leaders should monitor and improve in a conventional school environment in order to enhance organisational conditions for learning, namely the physical environment; the social environment; and the emotional environment. The literature also suggests promoting staff understanding of the value and importance of thinking and cognitive education.

The literature identifies similar areas for curriculum leaders at Thinking Schools: cultivating the physical conditions to support cognitive education; cultivating social, emotional and cognitive education; and promoting staff understanding of the value and importance of thinking and cognitive education. Within each of these areas themes and sub-roles can be identified. Findings from the data in relation to the curriculum leadership's sub-roles in the Thinking School are reported under these headings.

Create Physical Conditions that Support Cognitive Education

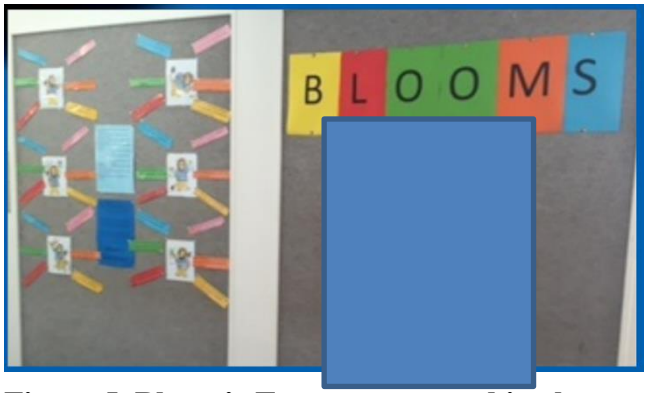
Appropriate resources are needed to support cognitive education. The leader's sub-role is to actively "hands-on" create resources to make thinking visible and the making of resources was also to support the use of Thinking School tools and strategies. As one teacher noted, *"They [school leader B and Drive Team] make it more visual." (FGQ2-T3).* This is confirmed by teacher 3:

> *[School leader B] will do all the first stacking and the laminating of the boards and she will do all the cutting out and laminating all of the little things that she will have delivered to the classroom. (FGQ5-T2).*

See Appendix U, Figure 4 for making thinking visible (Pasted Posters).

Another role enacted by leaders was using money to enhance the school's technology. As school leader C states:

> *The one beauty of it is that you can go to great expense and make a school, a Thinking School using technology. But at the same time, you have … a lot of money in your school … in terms of bandwidth and connectivity (IQ1-SLC).*



(The Thinking School, 2017)

Figure 5. Bloom's Taxonomy pasted in classrooms

Create Social Conditions that Support Cognitive Education

Four themes relate to the roles that curriculum leaders play to address social conditions that support cognitive education, namely: engaging in frequent communication about a Thinking School ethos; encouragement for teachers in promoting collaborative learning; the practicing of reasoned dialogue in the whole school and classroom about curriculum content and about the processes of thinking and learning; and instilling and guaranteeing communication about cognitive education through media channels and gatherings. Each of these themes is explained by drawing on evidence from the data.

Engaging in frequent communication about the school ethos, values, processes and habits, involves the leadership in the sub-role of ensuring that this understanding is communicated to the whole school community. Communication focused on both school leader C and school leader B playing these roles. For example, school leader B commented that there is, *"constant communication and training so that there is an understanding of what the outcome for the*

school community and the [learners] will be" (QQ7-SLB). School leader A explained the social sub-role leadership played in frequently communicating the Thinking School ethos: *"If you would walk into one of our assemblies you would hear the … language being used, striving for accuracy persisting. The language is used in the written and in the visual." (IQ2-SLA).* A related magazine article says the following: *"Alright, so what about 'Thinking and Communicating with Clarity and Precision'? That must happen at the Grade Homework Sessions for parents." (Magazine article, 2015, The Thinking School).* Another key sub-role leadership played in supporting the school ethos was to ensure that a Thinking School language is used in assemblies and newsletters. Teacher 1 confirms this: *"School leader C always tries to use the Habits of Mind in his assemblies … or the messages he sends out and the newsletters that are also sent to the parents." (FGQ5-T1).*

Leadership promotes a Thinking School philosophy and values. As one leader notes, *"Talk the talk and walk the walk. Never stop promoting, speaking about it and demonstrating the Thinking School methodology in all areas." (QQ8-SLB).* This is affirmed by teacher 2, who states that there is *"full commitment and demonstration (by leaders) of the Thinking School ethos in assemblies, newsletters, testing and assessments." (QQ7-T2).* The data shows that the leader cultivates Thinking School methodology, attitudes and ethos through encouraging audible and visible thinking. *"We are loud,"* a teacher asserted. "*We encourage discussions and visible thinking using maps and thinking tools like 'think, pair, share'." (QQ3-T4).*

Another theme that emerged from the data was the role of leaders in actively giving support and encouragement of collaborative learning. Leaders encourage teamwork in the classroom: *"I'm using the school practice [that] allows you to do a lot of collaborative work,"* says school leader C *(IQ1-SLC). "There's a lot more noise,"* adds school leader B. *"There's a lot more interaction, there's a lot more conversation, because it is a very collaborative type of learning." (IQ2-SLB). "There is also quite a lot of collaborative work where the children will bounce something off their friends like a 'think, pair, share'," says* school leader A *(IQ1-SLA).* School Leader B comments:

> *I think also the involvement of the [learners] in the lessons and particularly what we call the test cases … is a huge task that integrates the whole of the methodology, collaborative work, not just receiving information, but actually working with the information …. They're engaged with … thinking deeper about asking more questions (IQ1-SLB).*

And teacher 2 confirms this: *"What definitely comes through in a Thinking School is that it is by no means quiet, there is a lot of collaboration going on if you are doing a 'think, pair, share' situation." (FGQ2-T2). "You might find … a Thinking School [to] be quiet … noisy, lively,"* adds school leader C *(IQ2-SLC).* School leader A points out:

> *The children [do a lot of] work interdependently as well; they will work on stuff together. They will chat to each other, they will give each other opinions, they will add more information to what the other one is already saying, so from that point of view you would get a sense of it (IQ2-SLA).*

School leader C reiterates:

> *I think [of] the fun, the enjoyment that the [learners] get out of not only the lessons that are presented to them, but also the lessons amongst themselves, so definitely I think that children are far more excited about learning through the process because [they] are a lot more in charge of what they learn (IQ1-SLC).*

The data indicates a third theme: the practicing of reasoned dialogue in the whole school and classroom about processes of thinking and learning. The leader's sub-role includes embedding the language of thinking in the classroom and school. *"The language and skills are in use daily, whether inside or [outside] the classroom,"* states school leader C *(QQ8-P),* adding that "*ongoing engagement and reinforcement [takes place] in the classroom, school passageways, places for gathering, while the language and skills are in use daily, whether inside or out of the classroom" (QQ8-SLC).* Teacher 2 agrees: *"Embedding and infusion across the whole school" (QQ8-T2)* is paramount to the success of their journey.

Another sub-role that the leaders also enact and cultivate is the value of questioning. Teacher 4 emphasises that they teach learners *"to think for themselves and to question the norm" (QQ3-T4).*

The last theme that emerged from the data was the role of leaders in promoting cognitive education through media channels and gatherings. The leader's sub-role encompassed embedding the language through school assemblies and daily contact in class. School leader B mentions that *"constant communication" (QQ7-SLB)* is essential, and school leader C adds that *"embedding the language through our communication channels – circulars, website, school assemblies, daily contact in the class" (QQ7-SLC*) helped to spread the Thinking School message through the whole school community. Another leadership sub-role incorporated embedding of the language through newsletters and report comments: teacher 3 notes that *"the Thinking School's language is used in every aspect of the school (newsletters, report comments, lessons, staff meetings, assembly, etc)." (QQ7-T3).* Teacher 1 asserts that:

> *Another way that the leader kind of facilitates is that [school leader C] always tries to use the Habits of Mind in his assemblies ... or the messages he sends out and the newsletters that are ... sent to the parents. They carry through from school to home and I think in that way the leaders are doing really well (FGQ5-T1).*

Commenting on language through media channels, school leader C mentions that *"to any of our media channels, we would use the language of our philosophy" (IQ3-SLC).*

The leader's last sub-role was to make sure that the language was written and made visual. School leader A explains:

> *If you had to read our headmaster's newsletter there would [be] reference to the Habits of Mind and Thinking Schools. If you would walk into one of our assemblies you would hear the words, the language being used, striving for accuracy persisting. The language is used in the written and in the visual (IQ2-SLA).*

Create Emotional Conditions that Support Cognitive Education

With regards to the role senior leadership played in enhancing the emotional conditions that cultivate and support cognitive education, two themes emerged, namely that the leaders model and promote a passion for cognitive education and pay attention to the well-being of learners and staff. Each of these themes is expanded on, drawing from evidence provided in the data.

The data shows that the theme of modelling and promoting a passion for cognitive education stems from the leader's sub-role in showcasing, creating and supporting an emotional environment to enable engagement with cognitive education in the school. Teacher 2 affirms that *"being passionate about the process of developing a Thinking School" (QQ8-T2)* helps to get the message across to others, and the teacher explains:

> *I think it definitely helps them to remain inspired if I could put it that way. As a leader you yourself, like school leader B, she is so inspiring and she's so passionate about this thing … that you can't help but feed off that, so I think it's essential that the people that are leading kind of impart that enthusiasm (FGQ1-T2) … so, yes, my feeling is that it's all about an attitude generally and I agree 100 percent with T1 (FGQ6-T2).*

Teacher 3 reiterates the importance of *"just changing your whole attitude towards teaching" (FGQ6-T3).*

The data reveals that the theme of paying attention to the well-being of learners and staff stems from leaders' sub-role of valuing learners' involvement in cognitive education at the school and promoting a sense of belonging. School leader C points out:

> *There's a lot of creativity, there's a lot of colour and there's a lot of freedom as well as in the sense of the school. I think that's because the children are given … responsibility … for their own learning and [for sharing] the learning with others, which is just the basis of collaboration (IQ2-SLC) …. definitely, I think [of] the fun, the enjoyment that the learners get out of – not only the lessons that are presented to them – but also the lessons amongst themselves (SLC-IQ1).*

Leaders also play a sub-role in instilling respect within the school's environment, as school leader C mentions:

> *I think that it's quite likely that you will respect other people, and that becomes the natural kind of value and behaviour at the school. So I think you might find … a Thinking School [to] be quite a noisy, lively and colourful place, but there will still be underlying respect for your fellow beings, you know, especially towards adults. That I think might be a bit hypothetical, but I think that's what happens in our school, because the children feel that [they] actually to some extent … have their own stake in the school themselves because they are, in a way, [teachers] of their peers next to them (IQ2-SLC).*

School leader A explains that *"pupils are very aware of their peers' emotions and work interdependently a lot" (QQ4-SLA). "Every individual's voice and thoughts are respected and documented and valued,"* adds teacher 2 *(FGQ2-T2).*

The leadership also plays the sub-role of supporting staff's planning and delivery of lessons. *"I'm sure there's lots of support [from] your team,"* teacher 4 points out *(FGQ6-T4),* adding

that *"accountability and support is vital" (QQ7-T4). "I think you need to support your staff and ... to give them the opportunity to talk,"* says school leader A *(IQ4-SLA).*

Create Conditions that Support Cognitive Education

In addressing the conditions for curriculum leaders to support cognitive education two themes emerged, namely: a language for thinking and engaging in focused conversations about cognitive education. The themes are elaborated on from the data.

A language for thinking involves leadership in its sub-role of promoting audible thinking and encouraging verbal interactions concerning cognitive education between staff members and learners and between the learners themselves. Teacher 4 commented: *"We are encouraging more noise and interaction and conversation." (FGQ2-T4). "We encourage discussions ... and thinking tools like 'think, pair, share' and 'gallery walks'." (QQ3-T4).*

A language for thinking also involves leadership support for the making and creating of visible thinking by displaying symbols, terms, and posters related to cognitive education (see Appendix U, Figure 6 for the Habits of Mind poster in the school hall). School leader C says leaders' role is to encourage staff to *"display ... symbols and terms" (QQ7-SLC)* and *"ensure that the symbols are seen and recognised" (QQ8-SLC*). *"You'd see these symbols all over the place,"* added school leader C *(IQ3-SLC*). "*Each habit has its own symbol, so that's also what you would see if you came into a Thinking School." (IQ3-SLC).* Teacher 3 affirmed the sub-role that leadership played: *"So they [school leader B and Drive Team] make it more visual." (FGQ2-T3).*

Visible thinking is also supported and demonstrated by leadership's willingness to create visible naming and labelling of thinking processes throughout the school. School leader C asserts that the school is a *"colourful place" (IQ2-SLC)* and vibrant. School leader A says their role is to ensure that *"the language (Habits of Mind) is used in the written and in the visual" (IQ2-SLA).* Teacher 4 adds that they *"encourage ... visible thinking using maps and thinking tools like 'think, pair, share' and 'gallery walks'." (QQ3-T4).*

The second theme involves engaging in focused conversations about cognitive education. The leader's sub-role here involves the usage of specific language to stimulate higher order thinking skills within the school. *"A Thinking School uses specific language, to encourage the development of higher order thinking skills,"* states teacher 3 *(QQ3-T3).* Another leadership sub-role in this context is the full commitment and demonstration of the Thinking School ethos: teacher 2 says the *"full commitment and demonstration of the Thinking School ethos in assemblies, newsletters, testing and assessments" (QQ7-T2)* upholds the school's mission and vision.

Leaders use thinking skills and tools in meetings and in their own practice, as school leader A mentions: *"Thinking skills are discussed in most of our curriculum planning meetings." (QQ5-SLA).* And teacher 2 confirms that they use *"the tools and language of the ethos in their own practices" (QQ5-T2).* School leader A supports these statements: "*So the thinking maps are*

also part of the language that the [learners] use, and then we [staff] also use it …. We will use the map [for] brainstorming in staff meetings." (IQ2-SLA).

Promote Staff Understanding of the Value of Cognitive Education

Three themes emerged relating to the roles that curriculum leaders play in promoting staff understanding of cognitive education: active support and encouragement of teachers in promoting cognitive education; promoting the values of cognitive education in the school community; and ensuring that attention is paid to holistic development and learning. Each of these themes is expanded on, drawing from evidence in the data.

In actively supporting and encouraging teachers to promote cognitive education, leader's express enthusiasm in helping teachers with uber tasks. Teacher 4 expressed the view that *"our staff and SMT [school management team] are always open and willing to share and help wherever they can" (QQ5-T4).* Teacher 4 acknowledges that "*school leader B is enthusiastic and her door is always open. She loves it when people ask her for help and ideas and will go out of her way to help you improve your lesson / uber tasks." (QQ6-T4).* Leaders also promote creativity in art and in the opinions of learners. *"There's a lot of creativity, there's a lot of colour and there's a lot of freedom as well,"* states school leader C *(IQ2-SLC).* Teacher 4 supports this: *"We help to facilitate [learners] and empower them to create their own knowledge." (QQ3-T4).*

Another theme that emerged is how leaders promote the values of cognitive education in the school community. Leadership extends the value of cognitive education into the home environment. School leader C commented on this sub-role: *"We use the Habits of Mind, because we believe it should come from family life at home ... [bringing] a family aspect to it …. It is a values-driven education." (IQ2-SLC).*

Leadership ensures the building and encouragement of sharing. Teacher 4 affirms this: *"Everyone was pretty open and there was a lot of encouragement to share." (FGQ1-T4).*

The data shows that the last theme is demonstrated through leadership's support and devotion to the holistic learning and development of the child's thinking. School leader C emphasises that *"holistic child development" (QQ4-SLC)* is important: *"I think today we see it as a school of holistic learning, so it immediately brings hope and child development into the picture." (IQ2-SLC).* SGB and SMT meeting minutes show that *"holistic philosophy" (SGB and SMT Meeting, 10 August 2016, The Thinking School)* was on the agenda and they further illustrate that the school was preparing *"to embed holistic philosophy" (SGB and SMT Meeting, 1 December 2016, The Thinking School).*

Summary of Key Findings

With regards to the social conditions to support learning and teaching, the findings confirm the sub-role leadership plays in communicating with the school community. Leaders promote the Thinking School philosophy and values, and they encourage the employment of cognitive tools in collaborative learning. The leaders also embed the language in the school and classroom through promoting and practicing reasoned dialogue about deep-level thinking and learning.

The findings also confirm that leaders showcase, create and support an emotional environment that enables engagement with cognitive education at the school.

With regards to cognitive conditions to support learning and teaching, the findings confirm that school leaders encourage verbal interaction concerning cognitive education. The leadership does so at the school by promoting the display of symbols and terms related to cognitive education and by naming and visibly labelling thought processes. The findings demonstrate leaders' ability to use thinking skills and tools in meetings and in their own practice.

The findings confirm the school leadership's commitment to promoting staff understanding of the value of cognitive education. The leadership displays commitment to the cause of cognitive education and to encouraging the sharing of ideas and resources related to its promotion. School leadership also displays its devotion to holistic learning and development of the child's thinking. The leaders inspire others through modelling enthusiasm for cognitive education. They also communicate the values of cognitive education into the home environment.

A noticeable aspect of the physical conditions to support learning and teaching is the sub-role leadership plays in actively (hands-on) creating resources to make thinking visible and the making of resources was also to support the use of Thinking School tools and strategies. A new aspect emerged from the findings on social conditions, namely the role school leader's play in encouraging audible thinking, using the Thinking School language in assemblies and newsletters and also promoting a social environment that encourages creativity.

4.4.2.2 Lead, Plan and Organise the Curriculum

In leading, planning and organising the curriculum, leaders in a conventional school environment would exhibit the following key roles: encouraging shared moral purpose; setting a curriculum direction (vision); developing and reviewing curriculum plans; engaging in and overseeing curriculum integration; engaging in curriculum renewal and innovation; engaging in inquiry and reflection between the parent/guardian community and staff related to curriculum improvement; promoting shared leadership of inquiry and reflection; and lastly supporting the development of professional learning.

Within this dimension the literature on Thinking Schools identifies key roles curriculum leaders play: firstly they ensure the high status of cognitive education within the school; secondly they review with staff the major programmes to teach thinking; thirdly they plan cognitive education for the whole school; fourthly they lead, plan and organise a cognitive curriculum; fifthly they engage in inquiry about cognitive education with staff; and lastly they engage in inquiry about cognitive education within and beyond the school.

Within each of these roles themes and sub-roles are apparent from the findings: these are discussed below under the headings listed above. (The appended Conceptual Framework in Appendix K gives an overview of curriculum leadership roles in standard and Thinking Schools).

Ensure High Status of Cognitive Education

Three themes emerge relating to the roles that the curriculum leaders play in ensuring the high status of cognitive education, namely: involving important stakeholders; investigating and promoting the level of buy-in within the school; and driving the change agenda toward becoming a Thinking School.

With reference to the first theme, involvement of stakeholders, a letter from the SGB demonstrates that school leaders played a sub-role in getting the governing body involved in the decision making process:

> *The School Governing Body has been an integral part of the process from the early stages and fully endorses this move towards becoming an accredited Thinking School. We are aware of the Western Cape Education verdict that developing problem solving, collaborative, communicative and creative skills in children should be part of the daily life in a school, and [we] believe that the Thinking School programme allows the Thinking School to do this (SGB Letter, 2017, The Thinking School).*

Addressing the second theme of "level of buy-in", school leader B confirms that leadership's scrutiny of *"book checks and curriculum planning are other ways to investigate the level of buy-in" (QQ10-SLB).* Teacher 3 states that *"whole-staff buy-in and an enthusiastic Drive Team are very important and necessary for the success of becoming a Thinking School" (Open Request-T3).*

With reference to the third theme, the leaders' sub-role is to drive the change agenda that came with the Thinking School concept. *"Managing change" (QQ5-SLC)* was important, school leader C explains, because the shift in thinking and teaching was a sudden one, especially for the older teachers. Thus the leadership had to stimulate a higher level of buy-in, as indicated by teacher 3: *"The process of becoming a Thinking School was driven from the top down, which meant that the buy-in from staff was higher." (QQ5-T3).* However, school leader C qualifies this statement:

> *Well, obviously everyone is not always on-board, not everybody wants to follow the Thinking Schools methodology, but having said that I think the whole school is on-board, because from the top down, everybody uses the language [and] the maps. The children, as I said, speak the Thinking School language (IQ3-SLA).*

Review Cognitive Education Programmes with Staff

One theme materialised from the data relating to the roles that curriculum leaders play in reviewing cognitive education programmes with staff, namely: plan and review with staff major programmes to teach thinking.

Leaders share with staff the decision-making process on which thinking methodology to use and implement, as shown by the Thinking School Evidence of 2017:

> *In 2012 the decision was made to explore the following thinking tools and ethos driven programmes – P4C, HoM, TASC, Multiple Intelligences, De Bono's Seven Hats, Thinking Maps and Bloom's Taxonomy. Small groups within the school studied and fed*

back their views on the different methodologies. The SGB then met to discuss the Thinking School philosophy. A decision was made to go ahead and support the implementation of Habits of Mind as the overarching Thinking School ethos from 2013 (The Thinking School Evidence, 2017).

The Thinking School Evidence of 2017 also states that school leader B:

then began explicit teaching lessons with each grade in the use of the Thinking Maps. Class teachers were asked to concentrate on one particular map for two weeks and slowly build up their knowledge of the use and efficacy of the deepening of thinking using this tool. Each of the maps was reviewed with staff in the week prior to the week of introduction to the learners. Staff then shared examples of their work with the maps in the second week (The Thinking School Evidence, 2017).

Draw up Plans for Cognitive Education at a Whole-School-Level

With regards to drawing up plans for whole-school cognitive education, four themes were identified for the roles that curriculum leaders play, namely: financial planning, goal setting, programme/curriculum planning, and lesson planning.

Leaders play a financial planning sub-role, which includes planning for cognitive-education resources and financial budgeting for training focused on cognitive education and purchase of Thinking School resources. School leader C comments as follows:

In terms of planning ahead for things like workshops: there are things that carry costs. Some of the workshops can be very expensive, because quite often they [involve] overseas visitors. So I'd say that financial planning is very important as to how far you want to go with it (IQ4-SLC).

An SGB and SMT meeting shows that there are *"budget meetings" (SGB and SMT Meeting November 2016, The Thinking School)* and the portfolio of evidence states *"the SGB and SMT understand the importance of training, so they allocate a large budget towards the training development of staff members" (Portfolio of Evidence 2017, The Thinking School).*

Leaders also play a goal-setting sub-role that is future-driven and related to student performance in the twenty-first century. Teacher 1 says that *"goal-setting" (QQ8-T1)* is important. School leader C comments as follows:

*Thinking School practice embellishes our present state curriculum substantially. It is far better geared towards futures in education; acquisition of twenty-first century teaching and learning skills; less content base; technology; [and the] fourth industrial age (QQ3-SLC) .... Y*eah, *and if you like that, then you're going to be developing a critical thinker, and critical thinking comes from us preparing for twenty-first century artificial intelligence [and] for rapid evolution in changing technology (IQ1-SLC) .... I think that leadership is the way to keep going with this and very much work towards the twenty-first century (IQ2-SLC) .... If we can all understand that thinking is really the key to the future, it's a key and key to all of our relationships. That's the key to success in our careers. The key to a full life, so if you can grasp how important thinking is and if you're thinking about your own thinking and you get to know exactly what brain you've got, then you can drive [your] brain to the maximum capacity during your life (IQ3-SLC).*

Teacher 3 supports these statements:

> *Now a Thinking School is all about getting the twenty-first century thinker or child ready for the world. They need to be developing those twenty-first century skills. Otherwise it's really a pointless exercise (FGQ2-T3).*

Another leadership sub-role is to set targets based on previous years' results, which means the targets are evidence based. *"They also set a target for us where we've got an Uber task,"* comments Teacher 1, *"which is like a fantastically prepared, well thought out lesson and we follow a special lesson plan." (FGQ1-T1).*

Another theme that developed from the data was programme/curriculum planning. Leadership plays a sub-role in implementation of cognitive education methodologies. The Thinking School evidence of 2017 states that the planning commenced in 2008, when the school was:

> *introduced to Feurstein's Instrumental Enrichment programme, Gardner's Multiple Intelligences and De Bono's cognitive education tools, amongst others. It was felt in 2008 and 2009 that these skills and practices should be extended to the whole school and the journey to embedding thinking in all areas of the school began (The Thinking School Evidence, 2017) …. In 2010 ... the Enrichment teacher at that time attended the IACESA [International Association for Cognitive Education in Southern Africa] seminar (The Thinking School Evidence, 2017) …. In 2011 two teachers attended the IACESA conference and saw presentations on David Hyerle's Thinking Maps, James Anderson's Habits of Mind and Belle Wallace's TASC [Thinking Actively in a Social Context] (The Thinking School Evidence, 2017) …. In 2012 the decision was made to explore the following thinking tools and ethos-driven programmes – P4C, HoM, TASC, Multiple Intelligences, De Bono's Seven Hats, Thinking Maps and Bloom's Taxonomy …. [In 2013 The Thinking School staff attended a] two-day Managing Change workshop to facilitate the transition and buy-in of all staff into the adoption of this pedagogy. A decision to integrate the language and strategies to develop and support the Habits of Mind became the focus for 2013 and 2014 as part of the Managing Change process. At the start of 2015 all staff were trained in Thinking Maps, as this was chosen to be the tool to make thinking visible. In 2016, explicit teaching and training [was undertaken] of all staff and learners in Bloom's Taxonomy. 2017 and 2018 [were the] years of consolidation and deep embedding of the tools and disciplines that have been introduced over the last seven years (The Thinking School Evidence, 2017).*

See Appendix U, Table 3 for further planning and development of the thinking curriculum. The Thinking School Evidence of 2017 states:

> *Thinking tools in blue are areas of areas of interest and training by specific staff members and as such are used with certain children in their care. These have all been considered and a decision has been made to not yet implement across the whole school. These, however, continue to be discussed at Drive Team and SMT meetings. When the decision is made to add to the Thinking Schools pedagogy these are the tools that will be evaluated. We encourage the use of other thinking modalities as individual staff become trained in these pedagogies. Feedback at Drive Team and individual level is also encouraged so that staff feel they have a voice in managing change within the school (The Thinking School Evidence, 2017).*

The leaders' sub-role here was also to organise network meetings with other Thinking Schools. Teacher 1 refers to "*regular Thinking Schools network meetings" (QQ5-T1)* and an SGB and SMT meeting refers to an *"Eastern Cape visit" (SGB and SMT Meeting 18 October 2016, The Thinking School).* Leadership enhances deep-level learning through building relationships with other Thinking Schools. School leader C mentions that they have:

> *been to Johannesburg to spend time with the teachers at school A, and they passed on their knowledge to us … and schools globally have got many courses going, unfortunately, because of COVID, obviously, there's been a bit of a slowing down, but they've got courses going the whole time (IQ3-SLC) …. It's interaction with other schools … and you've got a couple of schools around you that I like, schools might even be in a different province, or if you've got a way of connecting with a school overseas …. Ideally, you have a lot of schools around you that you can engage with and you can share your thinking and even share learning. That's a very good way of engaging with the community as well (IQ4-SLC).*

Teacher 1 had the following to say about leadership's sub-role to ensure regular meetings with neighbouring schools:

> *Because of lockdown and everything that's happened we haven't been able to have our usual network meetings, but under normal circumstances there would be meetings a couple of times in the term with other neighbouring schools that are also accredited Thinking Schools or on a journey to becoming one. We would then meet with teachers from other schools and collaborate, and there'd be a different topic each time, which we discuss and I find that, because school leader C manages that and makes sure that we get the information about those network meetings, we are able to attend and then also grow our knowledge (FGQ1-T1).*

An SGB and SMT meeting records engagement in the *"educational service unit (ESU) forum and Thinking Schools network meetings (local schools)" (SGB and SMT Meeting, 10 May 2016, The Thinking School).* Another leadership sub-role was to attend the Thinking Schools South Africa (TSSA) Roadshow. Teacher 1 reports:

> *[Schools hold] an annual thinking skills Thinking Schools South Africa Roadshow …. I think the Thinking School hosted it on one occasion, but also attends it when it's hosted by other schools …. So there's that opportunity for professional development always (FGQ5-T1).*

An SGB and SMT meeting also records *"hosting [of a] TSSA workshop" (SGB and SMT Meeting, 16 February 2017, The Thinking School).* The school also *"host[ed] a TSSA 'Passion for Learning' Roadshow" (SGB and SMT Meeting, 14 March 2017, The Thinking School).*

Leadership also plans for teacher guidance and training of other schools through demonstrations. Teacher 4 comments:

> *It has very much been our journey. And then mostly we help a lot of other schools, so we help a lot of other teachers from other schools that will come in and watch us and get ideas from us …. We do go to a lot of courses and we host a lot of courses and other schools come to us (FGQ5-T4).*

Leaders also organise through effective communication. School leader C comments on:

> *... organising in terms of communicating, in terms of planning, just the use of the thinking maps on their own. That is fantastic and also once you've got your curriculum, your CAPS [Curriculum and Assessment Policy Statement] and you can see what you're going to do for each term, you can probably see which aspects of thinking, skills, philosophy, which skills you can bring in at the right time of the year and pair ... with the CAPS skills (IQ3-SLC).*

Leaders also set up structures and create a committee to oversee development of cognitive education within the school. The Thinking School Evidence of 2017 records:

> *By [the] end of July 2011 the Thinking School Committee at [the school] was established. The Drive Team since 2014 has a representative from each grade and the two academic HoDs of both the FP [Foundation Phase] and Intersen are also part of the committee." (The Thinking School Evidence, 2017). .... The committee continued with regular meetings to plan and monitor development of the Thinking School processes (The Thinking School Evidence, 2017).*

The leadership's sub-role necessitated use of thinking tools (using the Habits of Mind and growth mind-set versus a fixed mind-set) in meetings to improve curriculum delivery in classrooms. School leader A reveals the use of *"Habits of Mind in our staff development sessions" (QQ6-SLA).* Teacher 1 adds that they:

> *often do lessons on the growth mind-set versus a fixed mind-set with our [learners] and sometimes a similar kind of activity with staff just to draw attention to the fact that this is what a fixed mind-set looks like and this is what a growth mind-set looks like, just to keep us [up to date] with continuous learning. As much as we can use those tools in our teaching, we can also use [them] for self-development and at a personal and professional level (FGQ6-T1).*

School leader B comments:

> *Our development is geared towards guiding the staff in terms of their thinking methodologies, and it's a compulsory scenario that you have to be trained. You have to be part of your thinking when you are training. You may not come in with it, but when you are with us; we will train you in that particular case (IQ4-SLB).*

Leaders also undertake slow and purposeful training to build teacher capacity for cognitive education. Teacher 4 comments:

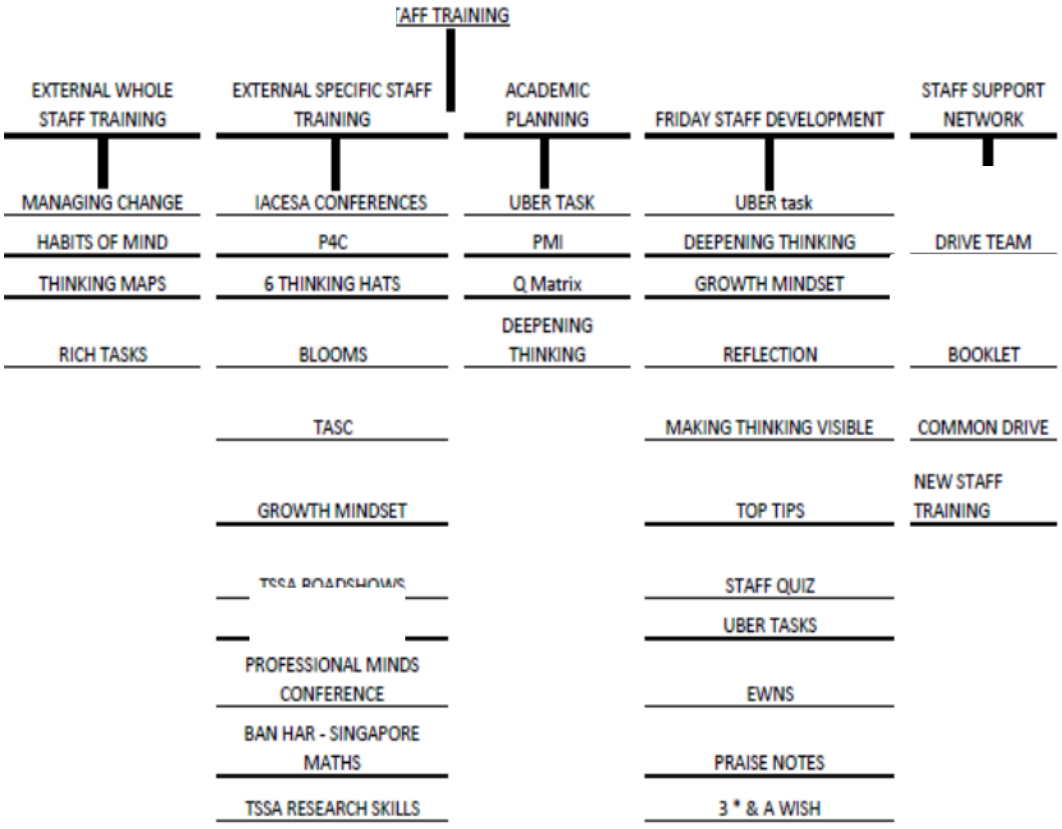
> *School leader B is the best. She trained us in Thinking Schools slowly, over a few years and not all at once (QQ6-T4) .... We were trained very slowly in this journey .... They basically implemented one part of it per year. So it was done in a very slow fashion, and it gave us an entire year to implement that little bit (FGQ1-T4).*

An SGB and SMT meeting records *"Thinking School training [for] new staff"* (SGB and SMT Meeting, 16 February 2017, The Thinking School).

Teacher 3 recalls that *"training of the teachers was the very critical part ... in this being a successful thing .... It was a step by step process" (FGQ1-T3).* Teacher 4 emphasises that *"a lot of it depends on the training" (FGQ4-T4).* School leader C comments:

> *So what happened was that in each grade a champion teacher was highlighted and it was that champion teacher [who formed] our Thinking School committee. They attended all the meetings and the training and then they spread their knowledge into the group of teachers in their grade (IQ3-SLC).*

The Accreditation Reflective Proforma shows that *"other thinking tools are revisited frequently through our weekly staff development sessions and morning briefings" (Accreditation Reflective Proforma, September 2017, The Thinking School).* The Portfolio of Evidence also states that "*smaller staff development sessions take place throughout the term at the Friday staff development sessions and also in the morning meetings" (Portfolio of Evidence, 2017, The Thinking School).* Drive Team minutes show that *"staff development: Professional Minds, Friday sessions [were] valuable" (Drive Team minutes, 21 June 2016, The Thinking School).*



(The Thinking School, 2017)

Figure 7: Leaders' use a Thinking Map (Tree Map) to Design Staff Training Sessions

Furthermore, leaders promote lifelong learning through workshops for staff development. School leader C mentions that *"stakeholder workshops" (QQ7-SLC)* are important and *"ongoing seminars and workshops" (QQ8-SLC)* are part of their daily routine to get everyone on the same wavelength. Teacher 3 says they *"will still go on lots of Thinking School workshops" (FGQ4-T3).* Teacher 1 insists that *"access to workshops" (QQ4-T1)* is a key aspect in taking the school's journey further. Teacher 3 supports these statements:

> *I think as with anything in life, professional development is a key thing. I mean, we will still go on lots of Thinking School workshops and [keep] up with that, because obviously times change and Thinking School skills need to change and adapt to the world around us. So just that professional development is so important (FGQ4-T3).*

An SGB and SMT meeting records the holding of *"Thinking School workshops" (SGB and SMT Meeting, 9 February 2016, The Thinking School),* and Drive Team minutes record a *"TSSA Workshop hosted at The G…. – The Thinking School presented UBER task rollout" (Drive Team minutes, 2016, The Thinking School).* These minutes also refer to a "*TSSA Blooms Taxonomy workshop at the Thinking School – 14 staff attended" (Drive Team minutes, 2016, The Thinking School).*

School leader A comments on leadership's sub-role in sending staff for refresher courses:

> *Courses are offered to our staff to keep abreast of Thinking School strategies and to promote a further interest in Thinking Schools (QQ5-SLA) …. We make sure as a management team that … if there is a refresher course or … something … to further people's knowledge of Thinking Schools, talks by different people or overseas speakers, if there is … some course or exposure [and] if there is money available, we [can] afford teachers to part take (IQ3-SLA).*

The data also shows that leaders make sure there are regular opportunities to attend courses. School leader A says they *"promote regular opportunities for courses and provide assistance in lesson planning" (QQ10-SLA).* Teacher 3 confirms that they:

> *have been given the opportunity to attend many workshops and courses that help us in developing our own thinking skills as well [as] providing us with ideas and support in developing lessons to teach these skills to the [learners] (QQ6-T3) …. As mentioned before, many courses and workshops were made available to the staff (QQ10-T3).*

This is reiterated by the Thinking School Evidence of 2017:

> *Other specialist training is for selected staff members by other external trainers. At academic planning every term the Thinking School programme has a designated slot for whole staff training (The Thinking School Evidence, 2017).*

See Appendix U, Table 4 for the staff training table.

Leaders also ensure and support the usage of external professional bodies, as confirmed by teacher 1: *"[We are] always invited to join any workshops that have been organised by Thinking Schools SA." (FGQ5-T1).* Teacher 4 elaborates:

> *We have people from overseas coming in. Presenting so we get a lot of ideas in that respect and … a lot of training is offered, and our SMT does offer a lot of support and ideas (FGQ5-T4).*

School leader C says *"we had a guru in our school and she actually led us through it" (IQ3-SLC).* An SGB and SMT meeting records a *"meeting with national coordinator"* (*SGB and SMT Meeting, 16 February 2017, The Thinking School).* The Drive Team minutes a *"Thinking Schools SA Network Drive Team Meeting" (Drive Team minutes, 22 August 2017, The Thinking School)* and the Portfolio of Evidence records *"other specialist training … for selected staff members by other external trainers" (Portfolio of Evidence, 2017, The Thinking School).*

The last theme to emerge from the data is lesson planning. The leaders embraced the use of thinking tools in meetings. School leader A says that *"using the Habits of Mind and Thinking School strategies in our meetings, staff development sessions, and in our lesson planning" (QQ6-SLA)* went a long way in getting the message across to all members of staff.

Lastly, leaders also use thinking tools in their own practice. Teacher 2 says leaders are *"using the tools and language of the ethos in their own practices. Uber tasks across grades are demonstrated by SMT teachers." (QQ5-T2).* This is confirmed by school leader B:

> *I think I'll use the tools myself in meetings and in the style meetings and presentations …. We also lead in [such] a way that we don't just tell. We do. So I … go into the classroom. I teach our guide …. So it's about being a role model and modelling what … you're expecting a teacher to present (IQ3-SLB).*

Lead, Plan and Organise the Cognitive Curriculum

Under this heading one theme emerged: designing of the cognitive curriculum by the leaders.

Leaders' sub-role included designing a curriculum tool that connects cognitive education with CAPS. (See Appendix U, Figure 8 for an example of lesson planning by the leaders). The Thinking School Evidence states:

> *These lessons follow the Habits of Mind Rich Task format, whereby the planning starts with the habit of mind or twenty-first century skill that we [want] to develop. Staff teams then plan together to make the thinking visible and relevant, using a combination of visible thinking routines, tech and, if required, thinking maps. The curriculum content is then added and a reflection component for both the learners and the teachers. Post-lesson evaluation and reflection by both the learners and staff are encouraged as a vital tool to adapt and improve the lesson planning (The Thinking School, 2017).*

The leaders also unpack the thinking tools in class, so that teachers can learn first-hand. Teacher 1 notes:

> *In her [school leader B's] lessons, she would actually have a focus on one habit of mind for that week, for example, or one level of Bloom's Taxonomy, which she (school leader B) would really unpack during that lesson, and … because she headed … that way, it allowed us to carry that through into our lessons for the rest of [that] week (FGQ5-T1).*

Leaders also provide practical examples, as teacher 1 explains:

> *I found it more helpful when I was able to see practical examples of those tools being used in a classroom, because through that I was able to see how to make use of those tools in the correct ways, in my own class (FGQ6-T1).*

Teacher 2 remarks that school leader B *"comes into the classrooms, presents best practice and inspires teachers" (QQ6-T2).*

Commenting on the need to demonstrate in classrooms and throughout the school, school leader C says one has to *"talk and walk the entire approach" (QQ8-SLC). "Talk the talk and walk the walk,"* adds school leader B. *"Never stop promoting, speaking about it and demonstrating the Thinking School methodology in all areas (QQ8-SLB) …. I demonstrate and guide the staff and [learners] by my actions and words (QQ5-SLB)."*

The leaders also model best practices for thinking strategies, which entails setting examples and guiding teachers. School leader A points this out:

> *You obviously need to practice what you preach, so you need to set the example, so … if anybody wants guidance or help, you have to be the one that does the things in your classroom (IQ3-SLA).*

Teacher 1 comments:

> *Prior to lockdown, school leader B would come into our classes once every second week to deliver a thinking skills lesson … specifically geared towards [focusing the learners'] attention on the way that they both work and the way that their brains develop and function. In her lessons, she would actually have a focus on one habit of mind for that week, for example, or one level of Bloom's Taxonomy, which she would really unpack during that lesson … because she headed in that way. It allowed us to carry that through into our lessons for the rest of [that week] (FGQ5-T1).*

Engage in Inquiry about Cognitive Education with Staff

Under this heading two themes emerged relating to the roles that curriculum leaders play, namely: promoting shared moral purpose; and ensuring opportunities for staff dialogue and training.

Leaders' promotion of a shared moral purpose entailed following the Thinking School's philosophy. School leader A emphasised the importance of *"following the Thinking School philosophy in most of what we do at our school" (QQ8-SLA)*, because doing so helped impart the philosophy to the staff. School leader B stresses that *"understanding and believing in the pedagogy of the Thinking School programme" (QQ5-SLB)* is vital. Teacher 4 points out that staff have *"fully embraced the Thinking School [programme]. We use it in our everyday language. Our staff and SMT are always open and willing to share and help wherever they can." (QQ5-T4).* School leader C reveals that their *"relationship grew stronger because we started believing more in Thinking Schools" (IQ3-SLC).*

Furthermore, leaders display full commitment to – and demonstration of – the Thinking School ethos. Teacher 2 discloses that *"full commitment and demonstration of the Thinking School ethos in assemblies, newsletters, testing and assessments" (QQ7-T2)* is expressed and conveyed across the whole school. Lastly, creating and implementing the vision and mission

of the school embodies a pledge to enhance values-driven education. School leader C declares that a *"values-driven education" (IQ2-SLC)* is central to the school's vision.

The theme of ensuring opportunities for staff dialogue entails leadership's curriculum and lesson planning to ensure the right method to teach thinking. *"Thinking skills are discussed in most of our curriculum planning meetings,"* states school leader A. *"We support the staff with their planning." (QQ5-SLA).* To *"provide assistance in lesson planning" (QQ10-SLA),* school leader A says, it is imperative to help teachers make the link with the standard CAPS l curriculum and the thinking tools that help best with the topic. Teacher 3 comments on *"check lists for books, planning and test setting. When the SMT checks our work they need to see evidence. If they do not see it, then they help us for the future." (QQ8-T3).*

School leaders also advise on the use of thinking tools in lesson planning. Teacher 4 emphasises that *"school leader B was always there [to help] you decide. She was always there to help us think of ideas and how to use the thinking maps." (FGQ1-T4).* See Appendix U, Figure 8 for an example of lesson planning by leaders.

Leadership also engages staff in inquiry related to cognitive education. *"The group meets once per term as a whole and then smaller groups meet when and if required" (The Thinking School Evidence, 2017).*

> *Feedback from the Drive Team and rest of staff are discussed and planning for future events takes place. These meetings were minuted informally by school leader B and were discussed at the Drive Team meetings when required .... Smaller staff development sessions take place throughout the term at the Friday staff development sessions and also in the morning meetings. These are planned and allocated in consultation with school leader C and the Thinking Schools Drive Team .... Feedback at Drive Team and individual level is also encouraged so that staff feel they have a voice in managing change within the school (The Thinking School Evidence, 2017).*

Leaders remain available to staff and share ideas. School leader B expands on:

> *engaging with teachers on a daily basis about the tasks being open and asking them to come and share what they're doing and show you what they're doing, come and ask for advice, teaching and setting up exam papers (IQ4-SLB).*

Staff training is the last theme to emerge from the data. Leaders train and show staff how to use thinking tools and how to implement thinking strategies. The Portfolio of Evidence shows that *"at academic planning every term the Thinking School programme has a designated slot for whole staff training" (Portfolio of Evidence, 2017, The Thinking School).* Leaders use Thinking School tools and strategies in meetings. School leader B acknowledges the use of *"Habits of Mind and Thinking School strategies in our meetings, staff development sessions, [and] in our lesson planning" (QQ6-SLA)* as vital so that the rest of the staff can see how to incorporate various strategies. Ensuring that thinking skills are incorporated into assessment tasks is also identified as a curriculum leadership role. Teacher 3 says *"thinking skills are incorporated across the curriculum; from lesson planning through to assessment" (QQ7-T3).*

Engage in Inquiry about Cognitive Education within and Beyond the School

One theme emerged under this heading, namely: planning by school leaders for inquiries between the parent/guardian community and staff concerning cognitive curriculum improvement.

This theme was paramount to the successful implementation of Thinking School methodologies. The leaders had to get the parents involved. School leader C discloses that parents realised the importance of the Thinking School, *"and they bought into it, so we found the language was being used at home (IQ3-SLC) …. In terms of leadership, you've got to get the parent. You have to [engage] the whole community." (IQ4-SLC).*

Various SGB and SMT meetings record that parents were *invited to the following: "Thinking School info evening 21/06/16; Parent Info Eve 10/8/16; Parent Info Evening 25/08/16; Parent Eve – 'The Thinking School as a Thinking School' + 'The Thinking School Taxonomy' Launch – Success! 13/09/16." (SGB and SMT meeting, 2016, The Thinking School) …. "Parent workshops … have given us further insight into the reaction to the introduction of Thinking School principles." (Accreditation Reflective Proforma, September 2017, The Thinking School). "Parent presentation – 200 attended plus ALL staff." (Drive Team meeting, 2016, The Thinking School).*

Leadership also encouraged parents to use the Habits of Mind in the home, and the importance of doing so is stressed by school leader C:

> *In terms of leadership, you've got to get the parent. You have to get the whole community …. It can't just be [the] school. Your parents … should know how to do the thinking, your parents should know all of the Habits of Mind. They should be using them when they're setting up their shopping lists and when they're talking to the [learner] about his behaviour (IQ4-SLC).*

Leaders also keep parents informed about Thinking School language and encourage learners to have discussions with their parents. School leader A comments:

> *It comes down to the language and encouraging children to persist, and when you set up your reports you use the language in your report comments …. We also encourage the children to have discussions with their parents, to speak about things and to discuss things. …. The children use the language at home, so the parents use the language as well, and they would use the language next to the rugby field. It's about persisting and the parents are very informed about the language, because it is used all the time (IQ3-SLA).*

Summary of Key Findings

From the aspect of ensuring the high status of cognitive education to support learning and teaching, the findings confirm that the Thinking School leadership involves the SGB in the decision-making process. Leadership also investigates the level of buy-in within the school from staff members and role players. The findings also confirm that leaders handle the change that came with introducing the Thinking School concept.

In reviewing major cognitive education programmes, it was confirmed that the leadership shares with staff the decision-making process concerning which thinking methodology should be implemented.

Under the aspect of drawing up plans for cognitive education at a whole-school level, the findings confirm that leaders are involved in setting up financial budgets. The leaders also set goals based on student performance, with emphasis on the twenty-first century. Furthermore, the data also confirms that leaders organise network meetings with other Thinking Schools and created a committee to oversee development of cognitive education within the school. The findings also confirm that the Thinking School leadership enhances deep-level learning through relationships with other schools; engages in slow and purposeful training; promotes lifelong learning through workshops, and makes use of external professional bodies.

School leaders help teachers at other schools through demonstrations and thinking tools. They also attend Thinking Schools South Africa Roadshows. Under the aspect of planning for ongoing professional development in cognitive education for all staff, the findings reveal that leaders use thinking skills and tools in meetings (Habits of Mind and growth mind-set versus a fixed mind-set) and in their own practice. The findings confirm that leaders use Thinking School strategies in meetings and thinking tools in their own practice. They also support staff in planning and delivery of lessons.

With regards to leading, planning and organising a cognitive curriculum, the findings confirm that the leaders design curriculum tools that connect cognitive education with CAPS. They also model best practice in thinking strategies. In engaging in inquiry about cognitive education with staff, leaders embraced Thinking School philosophy and demonstrated their full commitment to the Thinking School ethos. The findings also confirm that in their curriculum and lesson planning, leadership strove for the right methods to teach thinking, sustained their availability, and shared ideas.

A noticeable aspect emerges from the findings: leadership's unpacking of thinking tools in classrooms and their provision of practical examples. In engaging in inquiry about cognitive education within and beyond the school, a new aspect emerged from the findings, namely leadership's support for parents' use of Habits of Mind in the home. School leaders kept parents informed about the Thinking School language; encouraged learners to hold discussions with parents; ensured the use of such language in the various school codes; and embedded the language through their comments in reports.

4.4.2.3 Supervise and Improve Teaching, Learning and Assessment

In supervising and improving teaching, learning and assessment, curriculum leaders would exhibit a few key roles in a conventional school environment, namely: ensuring systematic and varied assessment and learning outcomes; ensuring systematic assessment of quality of teaching; ensuring systematic assessment of psychosocial and behavioural outcomes; monitoring and assessing school ethos and culture; engaging in inquiry and reflection within and beyond the school; encouraging and supporting inquiry, reflection and research into teaching and learning; and lastly strengthening practices of inclusion and support.

Leaders in Thinking Schools play additional roles in this dimension of curriculum leadership. The literature on Thinking Schools identifies two key roles for curriculum leaders, firstly mentoring teachers to integrate thinking skills and strategies into all teaching, and secondly encouraging teachers to incorporate attention to thinking in setting assessment tasks. Using these two key roles as headings, themes and sub-roles have been identified from the data. The findings are reported under these two headings. The appended Conceptual Framework (Appendix K) provides an overview of curriculum leadership roles in conventional and Thinking Schools.

Mentoring Teachers to Integrate Thinking Skills and Strategies into all Teaching

Five themes can be identified from the roles played by curriculum leaders under this heading, namely: encouraging interdependent work; equipping teachers with pedagogical skills to mediate thinking skills in the classroom; enhancing visible thinking in classrooms (technology to support cognitive education); ensuring attention to learners' metacognition; and ensuring that learners are explicitly taught a range of thinking skills by introducing and modelling various thinking tools.

Under the first theme: leaders show teachers how to encourage learners to work interdependently and in pairs. School leader A notes:

> *There is a lot of work where the children work interdependently as well; they will work on stuff together. They will chat to each other, they will give each other opinions, [and] they will add more information to what the other one is already saying (IQ2-SLA).*

Teacher 1 adds:

> *Prior to lockdown, [SLB] would come into our classes once every second week to deliver a thinking skills lesson: the lesson that is specifically geared towards bringing the boys' attention to the way that they both work and the way that their brains develop and function. In her lessons she would actually … focus on one Habits of Mind for that week, for example, or one level of Bloom's Taxonomy, which she would really unpack during that lesson … because she headed in that way, [which] allowed us to carry that through into our lessons for the rest of this week (IQ5-T1).*

Teacher 2 acknowledges:

> *What definitely comes through in a Thinking School is that it is by no means quiet. There is a lot of collaboration going on if you are doing a think, pair, share situation. The kids are in pairs and they are all discussing something and then you might have the number one person of that pair feeding back what number two had to say, so now they really have to listen to what the other person said: there's a lot of collaboration (FGQ2-T2).*

Teacher 3 concludes that *"such a huge part of Thinking Schools is learning from each other and collaboration" (FGQ3-T3).* A Thinking School magazine article comments as follows: *"Well then how are we going to be 'Thinking Interdependently'? Of course – the new 'The Thinking School Buddies' initiative will see to that.*" *(Magazine article, 2015).*

The second theme that emerges from the findings is the equipping of teachers with pedagogical skills to mediate thinking skills. The leaders' sub-role here includes encouraging and preparing (using resources and different cognitive strategies) teachers to promote questioning among learners and deep-level reasoning about topics. *"We encourage questioning and reasoning," states s*chool leader A *(QQ4-SLA).* And school leader B affirms this: *"They're engaged with … thinking deeper about asking more questions" (IQ1-SLB).* The leadership also played a sub-role in coaching less involvement by teachers and promoting mediation in classrooms. Teacher 4 asserts:

> *The teachers get less involved and the kids actually take initiative for themselves and they are part of their own learning process, which means that they will remember what they are doing a lot more because they create their knowledge …. It's not just teacher talk, it's [the] teacher standing back and actually allowing the kids to question the things that we say (FGQ2-T4).*

"It facilitates active participation from everybody," says teacher 2 *(FGQ3-T2).* Teacher 2 explains: *"The children are empowered to think for themselves." (QQ3-T2).* School leader C comments: "*The children are given … responsibility for their own learning and to share the learning with others, which is just the basis of collaboration." (IQ2-SLC).*

Teacher 4 supports this: *"We help to facilitate them and empower them to create their own knowledge." (QQ3-T4).* Teacher 1 elaborates:

> *Yes, I think that because you are actively involved in the learning process you tend to learn things in a different way and perhaps in a way that is more lasting as opposed to just … having to memorise facts and be able to regurgitate [them] (FGQ3-T1).*

Teacher 1 supports this statement:

> *Basically [they] are gearing them towards being able to apply knowledge as opposed to just regurgitating knowledge imparted to them [by] their teachers or from a textbook, for example. (FGQ2-T1).*

School leader B emphasises that *"the teacher is not the one standing up at the board and doing all the talking" (IQ2-SLB)*. School leader C explains that *"you're handing over the responsibility of learning. You create the platform and the structure and you facilitate the platform for learning to happen…" (IQ1-SLC).* Teacher 2 concludes that *"it gives each child a voice" (QQ4-T2).* The accreditation reflective proforma mentions that *"we always respond with wonderment and awe at how [the learners] can work collaboratively and creatively with very little teacher facilitation" (accreditation reflective proforma, September 2017, The Thinking School).*

The third theme made evident from the findings is the enhancement of visible thinking in classrooms. Leadership's sub-role here encompassed supporting a visible language of thinking through the use of Thinking Maps and Habits of Mind to enhance higher order thinking skills. Teacher 3 confirms this: *"A Thinking School uses specific language, maps and visuals to encourage the development of higher order thinking skills." (QQ3-T3).* School leader C comments:

> *I think we started off with Habits of Mind and then we went into reflective thinking tools and then we went into visual thinking … I forgot to mention the Thinking Maps. We did the Habits of Mind first, and then we did the Thinking Maps afterwards, and I must say … they're very, very useful learning tools and also just a memory tool (IQ3-SLC).*

An SGB and SMT meeting stresses the *"Thinking Schools practice evident in classroom teaching: Thinking Maps" (SGB and SMT Meeting, 10 May 2016, The Thinking School).* Another sub-role was encouraging the use of Thinking Maps to present a more visual thinking experience to the learners. *"A lot of work is presented through Thinking Maps,"* states school leader B *(IQ2-SLB).* Teacher 3 comments:

> *[Leaders] make it more visual and I think that we have many visual [learners] nowadays, and this completely supports that visual [learner], this type of teaching, whereas the normal writing of notes, it just doesn't work (FGQ2-T3).*

The school leaders also undertake responsibility for ensuring that teachers make use of technology to enhance cognitive education (See Appendix U, Figure 9 for the use of technology to illustrate Thinking Maps). *"The one beauty of it is that you can … make a school a Thinking School, using technology,"* says school leader C *(IQ1-SLC).* School leader B elaborates: *"But actually working with the information, using technology leads to a lot more engagement." (IQ1-SLB).* Teacher 3 comments:

> *What we … would end up doing is either just pushing desks aside, getting the [learners] into groups, or letting the [learners] take the iPads and go outside in groups, [hold] discussions and then come back into the classroom. (FGQ4-T3).*

School leader C indicates the use of technology such as *"programming and coding" (QQ5-SLC).* An SGB and SMT meeting notes: *"Technology: three lead teachers attend BETT Education Technology Conference in UK." (SGB and SMT Meeting, 16 February 2017, The Thinking School).*

Illustrating the theme of ensuring attention to learner's metacognition, leaders support teachers in getting learners to understand their own thinking processes. School leader C explains:

> *And so if you can grasp how important thinking is, and if you're thinking about your own thinking, and you get to know exactly what brain you've got, then you can drive their brains to the maximum capacity … (IQ3-SLC).*

School leader C explains that the school not only focuses on *"math literacy or language … [but] some of the metacognitive skills [as well]" (IQ2-SLC).* School leader C notes that *"thinking about your own thinking" (IQ3-SLC)* improves one's understanding of various topics. Teacher 1 supports this view:

> *[Learners] are aware of how their brains work. They apply Habits of Mind to their daily tasks, which bring about a level of mindfulness when completing schoolwork …. The [learners] are equipped with tools to explore, explain and record their thinking differently to that of [learners] at other schools (QQ3-T1).*

School leader B clarifies:

> *[They] use the Habits of Mind and the learners are very competent in using their language, striving for accuracy, persisting, all [that] metacognition ... mindfulness, it becomes part of their everyday language, so they do use it a lot (IQ1-SLB).*

Teacher 4 adds:

> *[Learners] actually take initiative for themselves and they are part of their own learning process, which means that they will remember what they are doing a lot more because they create their knowledge (FGQ4-T4).*

Leaders also support teachers to encourage flexible thinking on the part of learners. School leader A confirms that teachers *"encourage [learners] to think flexibly and to try to work things out for themselves" (QQ3-SLA). "We encourage questioning and reasoning,"* adds school leader C *(QQ4-SLC).* This is emphasized by school leader A:

> *I keep saying to them [learners] ... if you are learning for a test or something don't expect to get everything by hand, recite everything like a parrot ... you know .... A lot of thinking ... is involved; [we] try to encourage the children to think first, not just [to] open their mouths with an answer (IQ1-SLA). Again, as I said, they use Thinking School language, just by talking to their mates and by investigating. We are not just going to put the answers up and say 'there they are' (IQ2-SLA).*

The last theme to materialise from the data is ensuring that learners are explicitly taught a range of thinking skills by using various thinking tools. Leaders model a range of thinking skills and strategies. The Thinking School Evidence of 2017 states:

> *Explicit teaching of the thinking skills modalities and pedagogy takes place from Grade 1–3 as part of the academic timetable. Grade R has quarterly teaching and for the remainder of the year, every teacher implements and extends the current thinking tools within the classroom. Grades 4–7 also have bi-yearly thinking skills lessons and special lessons where a new tool or Thinking Practice is to be introduced. The rest of the year visible thinking forms part of the integral teaching curriculum (The Thinking School Evidence, 2017).*

The leaders also use the Habits of Mind in everyday engagement (with staff or learners), and they promote the ideology behind it to encourage reasoning and questioning. School leader C mentions that *"inculcation of Habits of Mind" (QQ5-SLC)* has been at the core of their Thinking Schools journey. School leader A confirms *"using the Habits of Mind, Bloom's Taxonomy, reflection tools and following the Thinking School philosophy in most of what we do at our school" (QQ8-SLA).*

Promoting the incorporation of thinking tools by teachers in order to grow learner awareness forms another leadership sub-role. *"You always have to integrate the language of Habits of Mind into it to draw the awareness to the [learners],"* notes teacher 1 (FGQ4-T1). Leaders also ensure the constant use of thinking tools by teachers. Teacher 2 comments: *"It's being used constantly. Some of it is not applicable to grade R, but there are at least six or seven that are using it (thinking tools) constantly." (FGQ4-T2).* Leaders also ensure the use of this

language in various codes in the school. *"We use the Thinking School methods and language across the academic, sporting and cultural codes,"* school leader C confirms *(QQ7-SLA).*

An SGB and SMT meeting states that *"Thinking Schools practice [is] evident in classroom teaching [of] Habits of Mind"* (SGB and SMT Meeting, 10 May 2016, the Thinking School). Leaders also use and encourage the Habits of Mind in staff meetings. School leader A refers to the use of *"Habits of Mind and Thinking School strategies in our meetings, staff development sessions, in our lesson planning, reports and assemblies" (QQ4-SLA)* (see Appendix U, Figure 10 for usage of Habits of Mind in report comments) as the norm and to keep conversations focused. The leaders extended these values into the home environment. School leader A says the classroom teacher is encouraged to deepen learners' thinking and to *"encourage questioning and reasoning. The teacher facilitates learning rather than doing all the talking. The Habits of Mind encourage a range of reflection routines." (QQ4-SLA).*

HOW TO DEEPEN THINKING IN THE CLASSROOM

21C SKILLS	ETHOS	THINKING TOOLS	VISIBLE THINKING ROUTINES	REFLECTION TOOLS
Problem solving	Habits of Mind	Edward de Bono's Thinking Hats	Think Pair Share	ESNW
Creativity		David Hyerle's Thinking Maps	CSI	PMI
Analytic thinking	P4C	Blooms & AndersonTaxonomy	Q Matrix	3 * & a Wish
Collaboration		Belle Wallace TASC	PPP	SWOT Analysis
Communication		Tony Ryan's Thinker's Keys	3 Before Me	What makes you say that?
Ethics, action, and accountability*			Gallery Walk	I used to think and now I think
			Flat Chat	See Think Wonder

*https://globaldigitalcitizen.org/21st-century-skills-every-student-needs

(The Thinking School, 2017)

Figure 11: Leaders ensure various thinking tools are used at The Thinking School

Encouraging Teachers to Incorporate Attention to Thinking in Setting Assessment Tasks

Two themes emerged related to the key role outlined in the heading above: firstly, ensuring thinking skills and tools are integrated in assessments (formal or informal); and secondly, encouragement of scaffolded assessment.

The first theme includes leaders' encouragement of Uber Tasks (lesson plans infused with cognitive education). Teacher 1 mentions that leaders' promotion of these tasks "*in turn encourages dynamic and engaging lesson planning and delivery" (QQ5-T1*). Teacher 4 elaborates: *"Yeah, but like, for example, we do Uber Tasks … an Uber Task is a more*

interactive object lesson." (FGQ6-T4). The leaders also incorporated thinking tools and strategies in the CAPS curriculum, as confirmed by school leader C:

> *Once you've got your curriculum, your CAPS curriculum, and you can see what you're going to do for each term, you can probably see which aspects of thinking, skills, philosophy … you can bring in at the right time of the year and pair … with the CAPS curriculum skills (IQ3-SLC).*

To encourage scaffolded assessment (the second theme), leaders promote the use of Bloom's Taxonomy in planning, setting exam papers and the range of questions used in discussions. School leader A elaborates:

> *[They] use Bloom's Taxonomy: there is also a range of questions, the questions are … generally not straightforward, so for example [for] any paper we might be setting we always have a range of questions as well (IQ1-SLA).*

Teacher 2 elaborates:

> *All of the assessments and tests are layered, if I could say that. I want to say scaffolded, so they start with your really easy questions and [they are] layered, so at the end of the test you are … asking for the appropriate map to compare fruit farming and cattle (FGQ2-T2).*

Teacher 1 also indicates that in *"all the planning activities we use the Bloom's Taxonomy, which we've dubbed The Thinking School Taxonomy" (FGQ4-T1).* An SGB and SMT meeting indicates the holding of a *"Thinking Schools Conference – Bloom's Taxonomy" (SGB and SMT Meeting, 9 February 2016, The Thinking School).* Another SGB and SMT meeting records *"Thinking Schools practice [is] evident in classroom teaching: Bloom's-Anderson Taxonomy" (SGB and SMT Meeting, 10 May 2016, The Thinking School).* Lastly the SGB and SMT meeting indicates there was a *"Bloom's-Anderson Taxonomy launch" (SGB and SMT Meeting, 21 June 2016)* to make all stakeholders aware of the various cognitive tier level assessments.

Summary of Key Findings

An analysis of leadership's mentoring of teachers to integrate thinking skills and strategies into all teachings, reveals the following curriculum leadership sub-roles: showing teachers how to encourage learners to name and use Habits of Mind (e.g. working interdependently) in groups and in pairs; encouraging and preparing teachers to promote questioning among learners; encouraging less involvement from teachers in lessons (teachers were instructed by leaders to take on a mediation and facilitation role); encouraging teachers to use the Thinking Maps to present a more visual thinking experience and to promote flexible thinking; and encouraging the use of specific language through Thinking Maps to enhance higher order thinking skills. Furthermore, the school leaders also make sure that teachers use technology to enhance cognitive education; support teachers in their attempts to make learners understand their own thinking processes; and promote flexible thinking. The findings show the leaders use the Habits of Mind in their everyday engagement (with staff or learners) and promote the ideology behind it to encourage reasoning and questioning. The findings confirm that in encouraging teachers

to incorporate attention to thinking in assessment tasks, the leaders promote the use of Bloom's Taxonomy in planning, setting exam papers, and the range of questions used in discussion.

The above mentioned analysis of the data also revealed four new curriculum leadership sub-roles, namely: Ensuring the use of language in various codes (cultural and sporting events) in the school; using and encouraging Habits of Mind in staff meetings; extending values into the home environment; and the leaders' support for teachers in developing Uber Tasks (cognitive lesson plan) and their encouragement of questioning by learners.

4.4.2.4 Engage in Evidence-Based Monitoring and Evaluation

When engaging in evidence-based monitoring and evaluations, curriculum leaders in a conventional school environment would play the following key roles: ensuring systematic and varied assessment of learning outcomes; ensuring systematic assessment of teaching quality; ensuring systematic assessment of psychosocial and behavioural outcomes; monitoring and assessing school ethos and culture; and lastly, engaging in inquiry and reflection within and beyond the school. Monitoring is the checking and inspection of the progress of any school programmes and plans. The information obtained through monitoring is used for evaluation. Evaluation is assessing the positives and negatives of any completed programme or project. I have made no distinction between monitoring and evaluation when sorting the data, as the two are interwoven.

In this dimension curriculum leaders play additional roles in Thinking Schools. The literature on these schools identify four key roles played by leaders: firstly, to monitor and evaluate effectiveness of school and classroom programmes and strategies to develop thinking; to monitor and evaluate teachers' use of thinking programmes and strategies; to monitor and evaluate learner change; and to reflect on and monitor development of the Thinking School. Each of these roles display a number of themes and sub-roles. Findings from the data are reported on under these headings. The appended amended Conceptual Framework (See Appendix V) gives an overview of curriculum leadership roles in standard and Thinking Schools.

Monitor and Evaluate Effectiveness of School and Classroom Programmes and Strategies to Develop Thinking

One theme emerged from analysis of data on this key role played by curriculum leaders, namely: evaluating the performance of teachers' use of specific programmes.

The leaders check that the introduction of any thinking approach works well. The accreditation reflective proforma of 2017 states:

> *Evaluation is an ongoing part of the process of embedding good cognitive practices at the Thinking School. We will never be able to sit back and say we 'have arrived', as we must always ensure that the systems and practices are improved, then maintained and positively sustained. The Drive Team [cognitive education leadership committee in school], SMT and Thinking School coordinator will continue to work together to assess and evaluate the efficacy of what we have put in place .... Ongoing evaluation of the chosen tools will continue:*

Another area in need of monitoring going forward is the consistent use of the Language of Thinking across the whole school.

Monitor and Evaluate Teachers' use of Thinking Programmes and Strategies

Three themes emerge from analysis of this key role played by curriculum leaders, namely: monitoring and evaluating the quality of teaching thinking; monitoring evidence-based teacher planning on using thinking tools; and obtaining and monitoring of an integrated quality management system (IQMS) to grade the use of thinking tools.

Monitoring and evaluating the quality of teaching thinking is apparent from the data on book checks conducted by leaders to establish the level of buy-in within the school. *"Book checks and curriculum planning are other ways to investigate the level of buy-in,"* says school leader B (QQ10-SLB). Teacher 4 adds: *"SMT checks that we use maps, etc., in our books and will help us think of more ways to use them" (QQ5-T4).* The accreditation reflective proforma states:

> *Book checks by foundation phase academic heads take place every term. Thinking Maps are part of the criteria that need to be included. The correct use and development of units of work using the Thinking Maps are assessed, reviewed and then advice offered if areas of concern are noted (accreditation reflective proforma, September 2017, The Thinking School).*

FP BOOK REPORT

Date: 2
Class Teach
Grade:

Criteria	Yes	No
Indications of regular marking, including dates	✓	
Work is CAPS compliant	✓	
Multiple opportunities to practise concepts	✓	
Positive/supportive comments	✓	

Comment:
Thank yo A great start to 2017.
Good to see lots of Fine Motor skills being practised.
"Persisting" and "Striving for Accuracy" already being emphasised. Looking forward to a year of good leadership in Grade One.

(The Thinking School, 2017)

Figure 12: Book check by Leader

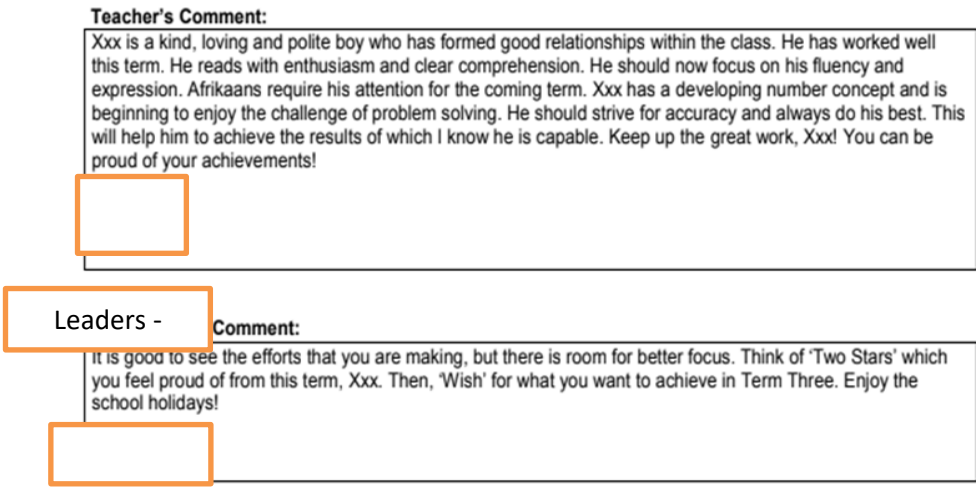
Leaders also check both planning and tests, and they look for evidence. Teacher 4 says there are *"check lists for book checks, planning and test setting. When the SMT checks our work they need to see evidence. If they do not see it, then they help us for the future." (QQ8-T4).* School leader B comments:

We make sure that in all our checks, every single aspect, thinking is put it into the question, in book checks, in the making of assessments, at the teacher meetings, the fact that every single thing [put] into the curriculum planning has to have certain areas of thinking adequately embedded in it, and if it's not, then there's a problem (IQ4-SLB).

School leader A supports this statement:

It comes into curriculum planning. It is definitely [a] key thing, you need to monitor staff, monitor books, make sure they are using comments, the words in their report comments for example, make sure they have a range of questions when they set test papers, … keep things positive, and keep everybody on board and motivated (IQ4-SLA).

See Figure 13, Appendix U: Book Monitoring and comments by leader using Habits of Mind.



(The Thinking School, 2017)

Figure 14: Teacher and Leader's Comments using Thinking Language

The accreditation reflective proforma indicates:

Test papers in both individual portfolio and school portfolio are moderated by Heads of Subject and Bloom's levels are very strictly measured (accreditation reflective proforma, September 2017, The Thinking School).

Here leaders also encourage teachers to engage in feedback and recap through exercises and pair work. *"When they do the collaborative learning,"* says school leader C, "*they might do a reflective exercise and a visual … exercise like something called a flat chat." (IQ4-SLC).* School leader C adds: *"They certainly do group work and they write down information on bits of paper. [These] can be followed up afterwards by thinking reflective activity." (IQ4-SLC).*

Leaders also ensure that teachers assess the positives and negatives of previous lessons, as school leader A notes: *"You [have] got to reflect and assess how did that go, whatever task or whatever you introduced. Did it work, what were the positives, what were the negatives?" (IQ4-SLA).* An SGB and SMT meeting records a *"Thinking Schools: 2016 Review" (SGB and SMT Meeting, 18 October 2016, The Thinking School),* and this is illustrated by the accreditation reflective proforma:

> *WCED and SGB staff; the staff member can reflect on the lesson after the review, they then rate themselves and meet with the assessor. For WCED staff a peer is included in the review (accreditation reflective proforma, September 2017, The Thinking School).*

The school leadership also ensures that learners are given time to answer work on their own, which is confirmed by teacher 4:

> *Before we even start, just to recap … all information that they remember about fractions, that they think they have five or ten minutes to do it completely on their own, and then we pair up (FGQ3-T4).*

Lastly, leadership promotes the use of various reflection tools in lessons (see Appendix U, Figure 15: PMI reflective tool used in staff training and meetings), so that learners can reflect critically on a topic and discuss what they perceive as positive, negative or interesting. Teacher 1 testifies to this:

> *Yes, absolutely, we use reflection tools all the time, we use things like two stars and a wish as a reflection tool, and perhaps we would have presented an Uber Task to the [learners] … We also use PMI, which is a 'plus', a 'minus' and an 'interesting' as a reflection tool and so perhaps we might go on an excursion somewhere, like to the aquarium, for example, and then upon returning they'll reflect on the outing by recalling the plusses, or maybe a minus that happened, and things that could be interesting during the trip …. [We] would ask them to write down two things that they really enjoyed about the lesson that was presented, so that they can reflect on it, and one of the things that they wish for would perhaps be something that they might want to be delivered in a different way the next time, or something that they wish would have changed about the lesson (FGQ5-T1).*

In obtaining and monitoring teachers' lesson planning on using thinking tools, leadership look for evidence of Uber Task (structured lesson plan infused with cognitive education) write-ups, as teacher 2 notes: *"I think another thing that is important is when we are called in for our evaluations they might very well ask to see those Uber Tasks write-ups." (FGQ1-T2).* An SGB and SMT meeting records this: *"Uber Tasks in class – ongoing audit by school leader B." (SGB and SMT Meeting, 2016, The Thinking School).* A Drive Team minute states: *"SLB to meet with all grades at grade planning to see Uber Task development." (Drive team meeting, 2016, The Thinking School).* Furthermore, an SGB and SMT meeting illustrates that *"teachers submit Uber Tasks" (SGB and SMT Meeting, 26 June 2017, The Thinking School).* Lastly, the accreditation reflective proforma states:

> *Uber Task write-ups must be shared on the common drive for the thinking skills coordinator to assess and review and for other staff to use as models of best practice. Regular feedback is given to staff who complete these twice termly tasks. Many staff have begun adding to the twice termly quota as they and the [learners] have enjoyed the Uber Task format (accreditation reflective proforma, September 2017, The Thinking School).*

Under the theme of obtaining and monitoring teachers' lesson planning on using thinking tools, leadership also evaluates teachers' planning and implementation of the Thinking Maps in the classroom. Teacher 3 explains: *"We have to basically show how we plan to use the Thinking*

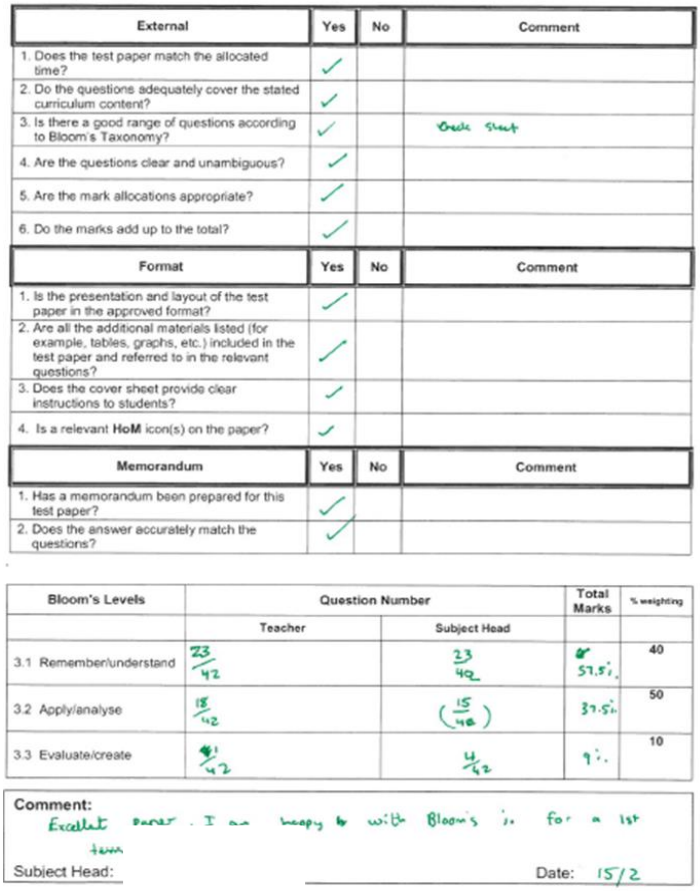
Maps, or the thinking tools like a gallery wall, or think pair share, or any ideas where we have to." (FGQ1-T3). Leaders also create space for the presentation of planning to show its implementation. Teacher 4 comments:

> *The SMT would put a column into our planning documents and then maybe every lesson, but once a week or whatever, we have to use the Thinking Maps and then implement how we use Thinking Maps .... We would have ... meetings where every grade would have to bring ... one or two of the examples of what they've done in the grade, so we could see how it was being implemented from Grade R all the way to Grade Seven (FGQ1-T4).*

Drive Team minutes record this evaluation: *"School leader B [is] to assess curriculum planning documentation [teacher file]." (Drive team Minutes, 2016, The Thinking School).*

Under the third theme, obtaining and monitoring of IQMS grading of the use of thinking tools, leaders set up IQMS grading relative to how well teachers used the thinking tools in tests and assessments. Teacher 2 mentions *"IQMS grading and accountability in curriculum planning documents, [and] moderation of tests and assessments to ensure use of the Thinking Tools etc" (QQ10-T2)*. The accreditation reflective proforma states:

> *Staff appraisals by academic heads take place yearly. There are two different models of staff appraisal. In both a lesson is observed and assessed according to criteria relating to good pedagogical principles. These include the development and infusing of the Habits of Mind ethos, Thinking Maps, Bloom's language, collaboration and any other visible thinking routines (accreditation reflective proforma, September 2017, The Thinking School).*



External	Yes	No	Comment
1. Does the test paper match the allocated time?	✓		
2. Do the questions adequately cover the stated curriculum content?	✓		
3. Is there a good range of questions according to Bloom's Taxonomy?	✓		Check sheet
4. Are the questions clear and unambiguous?	✓		
5. Are the mark allocations appropriate?	✓		
6. Do the marks add up to the total?	✓		

Format	Yes	No	Comment
1. Is the presentation and layout of the test paper in the approved format?	✓		
2. Are all the additional materials listed (for example, tables, graphs, etc.) included in the test paper and referred to in the relevant questions?	✓		
3. Does the cover sheet provide clear instructions to students?	✓		
4. Is a relevant **HoM** icon(s) on the paper?	✓		

Memorandum	Yes	No	Comment
1. Has a memorandum been prepared for this test paper?	✓		
2. Does the answer accurately match the questions?	✓		

Bloom's Levels	Question Number		Total Marks	% weighting
	Teacher	Subject Head		
3.1 Remember/understand	23/42	23/42	57.5%	40
3.2 Apply/analyse	15/42	(15/42)	37.5%	50
3.3 Evaluate/create	4/42	4/42	9%	10

Comment: Excellent paper. I am happy to with Bloom's % for a 1st term

Subject Head: Date: 15/2

(The Thinking School, 2017)

Figure 16: Test Paper Moderation by Leader against Bloom's Taxonomy

Monitor and Evaluate Learner Change

Two themes emerge related to the roles that curriculum leaders play in monitoring and evaluating learner change, namely: personal/social change and cognitive/academic change.

The theme of personal/social change entails leaders making sure that teachers make learners feel they belong and that they do not feel isolated. School leader C explains:

> *I think with the fun, the enjoyment that the [learners] get out of not only the lessons that are presented to them, but also the lessons amongst themselves … definitely I think that children are far more excited about learning through the process because they are a lot more in charge of what they learn (IQ1-SLC).*

Leaders also monitor whether teachers are using the tools as self-reflective criteria in the disciplinary process, as The Thinking School Evidence of 2017 states:

> *As part of the discipline process at the school the Habits of Mind and Thinking Maps are used as a reflective tool and part of the restorative justice process. [Learners] who receive detention by gaining too many demerits, for various reasons, meet with the detention teacher and work through the booklet to try to understand and plan to make right the wrongs that they have made. In class discipline, teachers also use the Habits of Mind as … tool for which learners can right the wrongs of which they have been part (The Thinking School Evidence, 2017).*

The accreditation reflective proforma, 2017, states that the school "*give[s] the learners time to reflect, to review their work and behaviour, and to dialogue about their school experience in order to effect change if required" (accreditation reflective proforma, 2017).*

The second theme that surfaced from the data was monitoring learners' cognitive/academic change and improvement. To this end, the leaders formed a Thinking Schools committee (TS Committee or Drive Team). School leader C confirms *"the placement of 'Champions' in each Grade and sector of the School [to form] our TS Committee" (QQ10-SLC),* which helps leadership with monitoring and evaluation throughout the school.

The leaders use a Drive Team to help the teachers stay on track and to make sure that the leaders are supported in taking things forward. The Drive Team helps leaders to pick up on what is working/not working, make suggestions, help troubleshoot when necessary, and to encourage teachers to check on learner well-being. Teacher 1 confirms:

> *School leader B has been heading up the Thinking Schools Journey at the school at the moment, and she works with a Thinking Schools Drive Team …. That is what the manager uses to make sure that we stay on track in terms of using Thinking Schools (FGQ1-T1).*

Teacher 3 comments further:

> *… and also then we'd get together once or twice a term and again share ideas and share things that are just to kind of keep the spark going. Otherwise, I mean, as with everything, you know, it can die if you do not check up on it (FGQ4-T3).*

An SGB and SMT meeting shows that the "Drive Team meets" *(SGB and SMT Meeting, 16 February 2017, The Thinking School).*

Leaders also use the Drive Team to check if teachers are using the Thinking Maps and if they are implementing thinking skills (see Appendix U, Figure 17: Drive team members assess teachers' lessons via classroom visits). Teacher 3 comments:

> *The other thing that is really, really important, which was set up when we started this process, was … our core group of teachers from each grade, your thinking team or whatever it is. So one representative per grade would really drive that within your grade, because you just need somebody who is constantly checking in to find out: Is everybody on track, are you using Thinking Maps, and are you using the thinking skills? (FGQ4-T3).*

Reflect on and Monitor their Development as a Thinking School

In analysing the role curriculum leaders play under this heading, one theme emerged: responsible monitoring of cognitive education.

This entails leaders being accountable and supporting their staff. School leader A comments:

> *You need to support your staff and you have to give them the opportunity to talk and make sure that they are not letting the Thinking School methodology fall by the wayside. It comes into curriculum planning …. You need to be accountable, you need to monitor staff, monitor books, make sure they are using comments … in their reports, for*

example, make sure they have a range of questions when they set test papers, … keep things positive and keep everybody on board and motivated (IQ4-SLA).

The accreditation reflective proforma comments on the appraisal systems:

For both appraisal systems, advice and goal setting is then facilitated by the academic head or by referral for assistance to the Thinking Skills coordinator, … continuing staff development and sharing of best practice with neighbouring schools to ensure ongoing support and sustainability (accreditation reflective proforma, September 2017, The Thinking School).

Summary of Key Findings

Findings on monitoring and evaluating the effectiveness of school and classroom programmes and strategies to develop thinking confirms leadership's sub-role: checking that any thinking approach that has been introduced works well.

Analysis of this aspect confirms numerous curriculum leadership sub-roles, namely: to ensure monitoring through book checks that determine the level of buy-in; checking of planning, tests and evidence; evaluating how Thinking School leaders ensure feedback and recaps through exercises and pair work and also using various reflection tools in lessons, so that learners can reflect critically on a topic and discuss what they perceive as positive, negative and interesting from the said topic; obtaining evidence of Uber Task write-ups; the moderation of tests by using Bloom's Taxonomy; evaluating teachers' planning and implementation of Thinking Maps in the classroom.

With regard to the analysis of the monitoring and evaluating of learner change, the findings confirm the following curriculum leadership sub-roles, namely: to ensure that teachers make learners feel they belong and don't feel isolated; to monitor whether teachers use the tools as self-reflective criteria in the disciplinary process; to form a Thinking Schools committee (Drive Team) that helps to ensure that all grades engage with different tiers of thinking skills; to use the Drive Team to help teachers stay on track, make sure leaders are supported in taking things forward, pick up on what is working/not working, make suggestions, help troubleshoot when necessary, and encourage teachers to check on learner well-being. With regard to the aspect of reflecting on and monitoring development of the Thinking School, the findings show that leaders need to be accountable and to support their staff.

However, a new aspect emerged from the findings, namely the creation of a space by leadership for the presentation of planning implementation.

4.5 Summary of Findings in Relation to Research Questions

First Research Question: What Does Management Understand a Thinking School to be?

Critical pedagogy formed the dominant theme relating to the first research question. School leaders use critical pedagogy in various ways, essentially extending it into the classroom. It is apparent that leaders believe it possible to learn to think more effectively – and that this can be taught. The second dominant theme is that of future driven education. Senior management believes that the Thinking School prepares learners for the future, not just for jobs, but to bring innovation to a technological era.

The next two themes hold the same weight; as senior management believes the Thinking School concept also develops the child holistically. The belief is that growth of the child should be mental, emotional, intellectual, physical and social. Senior management also believes the Thinking School offers value-driven education that inculcates Habits of Mind and guides our beliefs, attitudes, and behaviour.

Second Research Question: What Curriculum Leadership Roles do the Principal and Senior Management Members play in Developing the Institution as a Thinking School?

Four dimensions were discussed and a fifth that is intertwined with the other four. The first dimension enhances organisational conditions for learning. Findings concerning physical conditions to support learning and teaching suggest the sub-role leadership plays in the active "hands-on role" in creating resources to make thinking visible and the making of resources was also to support the use of Thinking School tools and strategies.

Findings concerning social conditions to support learning and teaching confirm that leadership communicates to create understanding in the school community, promoting Thinking School philosophy and values and encouraging employment of cognitive tools in collaborative learning. A new aspect emerges from the findings on this aspect: the role Thinking School leaders play in encouraging audible thinking, using Thinking School language in assemblies and newsletters and also promoting a social environment that encourages creativity.

Findings regarding emotional conditions to support learning and teaching confirm that leaders showcase, create and support an emotional environment to enable engagement with cognitive education at the school.

Findings regarding cognitive conditions to support learning and teaching confirm that Thinking School leaders encourage verbal interaction concerning cognitive education. A noticeable aspect of the findings is the leaders' ability to use thinking skills and tools in meetings and in their own practice.

Findings concerning promotion of staff understanding of the value of cognitive education confirm that leadership displays commitment to the cause of cognitive education. It encourages the sharing of ideas and resources related to promotion of cognitive education. The findings

further confirm that Thinking School leaders extend cognitive-education values into the home environment.

The second dimension of the second research question is the leading, planning and organising of the curriculum. Findings on ensuring the high status of cognitive education to support learning and teaching confirm that leadership ensures that the SGB is involved in the decision making process and investigates the level of buy-in within the school from staff members and role players.

Review of major cognitive education programmes confirmed that leaders share with staff the decision-making process on which thinking methodology to use and implement.

Findings on drawing up plans for cognitive education at a whole-school level confirm the following curriculum leadership sub-roles: setting up financial budgets; goal-setting that is linked to the twenty-first century; organising network meetings with other Thinking Schools; engaging in slow and purposeful training; promoting lifelong learning through workshops; and making use of external professional bodies. Leaders help teachers from other schools through demonstrations and the use of thinking tools. Leaders also attend Thinking Schools South Africa Roadshows. They use Thinking School strategies in meetings and thinking tools in their own practice. They support staff in planning and delivery of lessons.

The findings also confirm the planning of ongoing continued professional development in cognitive education for all staff, namely that leaders use thinking skills and tools in meetings (using Habits of Mind and a growth mind-set versus fixed mind-set) and in their own practice.

Findings on leading, planning and organising a cognitive curriculum confirm that leaders design curriculum tools that connect cognitive education with CAPS. Leaders also model best practices for thinking strategies. However, a noticeable aspect is the leadership's practice of unpacking thinking tools in class and their provision of practical examples.

The findings on leadership engaging staff in inquiry about cognitive education confirm that leaders embrace Thinking School philosophy and display commitment to the Thinking School ethos. Findings also confirm that leadership plans the curriculum and lessons in order to ensure the right method to teach thinking. Leaders also make themselves available to staff and share their ideas.

A new aspect emerged from findings on engaging in enquiry about cognitive education within and beyond the school, namely that leaders encourage parents to use Habits of Mind in the home, keeping parents informed about related language and encouraging learners to hold related discussions with parents. Leaders also promoted the use of Thinking School language in various codes at the school and embedded this language in their report comments.

Within the third dimension – which entails supervision and improvement of teaching, learning and assessment – analysis of leaders mentoring of teachers to integrate thinking skills and strategies into all teachings confirmed the following curriculum leadership sub-roles: to show teachers how to encourage learners to name and use Habits of Mind (e.g. working interdependently) in groups and in pairs; to encourage and prepare teachers to promote

questioning among learners; to encourage less involvement from teachers in lessons (teachers were instructed to take on a mediation and facilitation role by leaders); and to encourage teachers to use Thinking Maps to present a more visual thinking experience and promote flexible thinking. Thinking School leaders also encouraged the use of specific language through Thinking Maps to enhance higher order thinking skills. Furthermore, the school leaders also make sure that teachers use technology to enhance cognitive education, promote instruction that helps learners to understand their own thinking processes, and promote flexible thinking. The findings show that leaders use Habits of Mind in their everyday engagement (with staff or learners) and promote the ideology behind it to encourage reasoning and questioning.

An analysis of the aspect of mentoring teachers to integrate thinking skills and strategies into all teachings the data revealed four new curriculum leadership sub-roles, namely: Ensuring the use of language in various codes (cultural and sporting events) in the school, using and encouraging Habits of Mind in staff meetings, extending values into the home environment.

Findings on the encouragement of teachers to pay attention to thinking in assessment tasks confirm that leaders promote the usage of Bloom's Taxonomy in planning, setting exam papers and determining the range of questions in discussions. A new aspect that emerged from the findings was the support given to teachers to develop Uber Tasks (cognitive lesson plan) and encourage questioning by learners.

The fourth dimension is to engage in evidence-based monitoring and evaluation. Concerning the effectiveness of school and classroom programmes and strategies to develop thinking, the findings confirm that leaders check that any thinking approach that has been introduced works well.

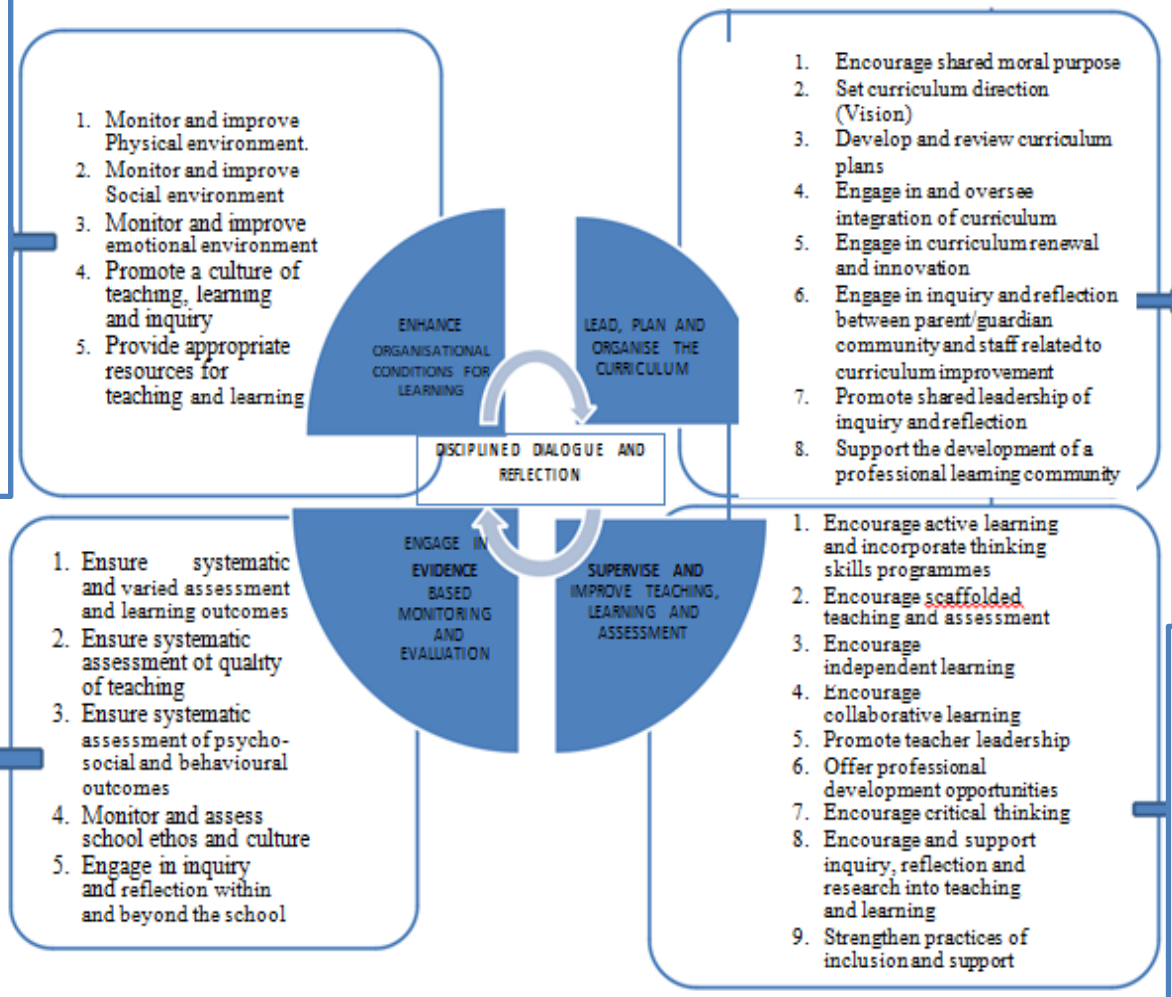
Concerning teachers' use of thinking programmes and strategies, the findings confirm the following curriculum leadership sub-roles: to ensure monitoring through the implementation of book checks to investigate level of buy-in; checking of planning, tests and evidence; evaluating how leaders ensure feedback and recaps through exercises and pair work – and also using various reflection tools in lessons, so that learners can reflect critically on a topic and discuss what they perceive as positive, negative or interesting; obtaining evidence of Uber Task write ups; the moderation of tests using Bloom's Taxonomy; and evaluation of teachers' planning and implementation of Thinking Maps in the classroom. However, a new aspect emerged from the findings, namely the leaders' creation of space to show implementation of planning.

With regard to monitoring and evaluating learner change, the findings confirm the following: that leadership monitors teachers and makes sure that learners feel they belong and don't feel isolated; that leaders monitor whether teachers use the tools as self-reflective criteria in the disciplinary process; that they ensure a Thinking Schools committee (Drive Team) is established; that they ensure all grades engage with various tiers of thinking skills; and that the Drive Team is used to help the teachers stay on track, supporting leaders in taking things forward, picking up on what is working/not working, making suggestions, helping to troubleshoot when necessary, and encouraging teachers to check on learner well-being.

Findings on the aspect of reflecting on and monitoring development of the Thinking School show that leaders need to be accountable and to support staff. The curriculum leader's energy and time was mostly focused on the planning aspect of their role in developing as a Thinking School.

4.6 Amended Conceptual Framework (Appendix V)

Dimensions and roles of curriculum leadership in conventional and Thinking Schools)



Physical Environment
Creating resources to make thinking visible.

Social Environment
Encouraging the employment of cognitive tools in collaborative learning.
Ensure that Thinking School language is used in assemblies and newsletters.
Encouraging audible thinking via Media.

Emotional Environment
Showcasing, creating and supporting an emotional environment to enable engagement with cognitive education in the school.

Cognitive Environment
Ensure naming and visible labelling of thinking processes.
Leaders use the thinking skills and tools in meetings.

Promote staff understanding
Extending values of cognitive education into the home environment.
Inspire others through modelling enthusiasm for Cognitive Education.

Monitor effectiveness of selected programmes and strategies
Checking that any thinking approach that has been introduced works well.

Monitoring and evaluating teachers' use of thinking programmes and strategies
Implementing book checks to investigate level of buy-in, checking of planning.
Moderation of tests by using Bloom's Taxonomy.
Create a space to show implementation of planning.
Encourage the teachers to assess positives and negatives of the previous lesson.

Monitoring and evaluating learner change
Ensure teachers make the learners feel they belong and don't feel isolated.
Forming a Thinking Schools committee.
Ensuring that all grades engage with different tiers of thinking skills.

Reflecting on and monitoring their development as a Thinking School
Be accountable and support staff.

Ensure high status of cognitive education
Involve SGB in the decision making process.
Investigate the level of buy-in.
Handle change.

Review cognitive education programmes with staff
Deciding with the staff on which thinking methodology to use.

Draw up plans for whole school cognitive education
Organising Network meetings.
Create a thinking committee.

Lead, plan and organise cognitive curriculum
Modelling best practices of thinking strategies
Unpacking the thinking tools in classes.
Build relationships with other schools.
Slow and purposeful training,
Attend Thinking Schools South Africa Roadshow.

Engaging in inquiry about cognitive education with staff
Maintain availability, share ideas.

Engaging in enquiry about cognitive education within and beyond the school
Keep parents informed.
Embed language through report

Mentor teachers to integrate thinking skills and strategies into all teaching
Promote flexible thinking and less involvement from teachers in lessons.
Usage of specific language through Thinking Maps to enhance higher order thinking skills and encourage questioning.
Promoting Thinking School ideology.
Support teachers to teach learners to understand their own thinking processes.
Ensuring the usage of language in various codes in the school.

Encourage teachers to incorporate attention to thinking in assessment tasks
Promoting use of Bloom's Taxonomy in planning, exam papers.
Supporting teachers to develop Uber Tasks and encouraged questioning.

4.7 Conclusion

In conclusion, this chapter presents my analysis and interpretation of the data from the Thinking School in relation to my research questions and conceptual framework. A review of my research aims and an overview of the structure was presented. The purpose of this chapter was to present a description of the case study school, outlining the experience and responses of all the participants with regard to senior management's understanding of a Thinking School and the curriculum leadership roles played by the school's management team in developing a Thinking School. Chapter Five will discuss findings of leadership's understanding of a Thinking School and the curriculum leadership roles found in a Thinking School in relation to the literature.

Chapter 5

Discussion of Findings

5.1 Introduction

This chapter provides a discussion of my findings in relation to the literature. My research

aimed to explore leaders' understanding of what is meant by a Thinking School and to explore the roles of the principal and senior management in supporting development of a Thinking School. In this chapter I compare the leadership practices from my case study of a Thinking School with curriculum leadership practices recommended in the limited literature on Thinking Schools. The main research question reads as follows: What curriculum leadership practices by senior management support the development of a selected primary school as a Thinking School?

This chapter will start by discussing the findings of the first subsidiary research question: What do members of senior management understand a Thinking School to be? The chapter then proceeds to the second subsidiary research question: What curriculum leadership roles do the principal and senior management members play in developing the institution as a Thinking School? The roles will be discussed in relation to the four dimensions mentioned in chapter 4. As stated in earlier chapters, disciplined dialogue and reflection are interwoven with the four dimensions.

In order to afford a logical structure and sequence to this chapter I have aligned the four key dimensions of leadership mentioned in chapter 2 to the research questions. This consequently offers a framework for the conclusions drawn from the literature review and the findings of the research study.

5.2 Key Dimensions

1. Enhance organisational conditions for learning
2. Lead, plan and organise the curriculum
3. Supervise and improve teaching, learning and assessment
4. Engage in evidence-based monitoring and evaluation

5.3 Main Finding

5.3.1 Senior Leadership Perceptions of a Thinking School

The findings of my study show that senior leadership believes a Thinking School to comprise critical pedagogy, future driven education, holistic child development and a value-driven education. I will now discuss these aspects in relation to the literature on Thinking Schools, cognitive education and critical education.

On the basis of the findings, it can be concluded that the leaders' understanding and perception of a Thinking School is aligned with the notion of critical education, leading to a critical-pedagogy themed setting. The senior leadership believes that it is possible to learn to think and learn more effectively, and that this can be taught (Feuerstein, 2012). The Thinking School primarily makes use of Habits of Mind and Thinking Maps and various forms of reflection methods and tools. Giroux (2010, p. 717) states, "educating students to become critical agents who actively question and negotiate the relationships between theory and practice, critical analysis and common sense, and learning and social change" is pivotal to creating a more conscious individual. Freire adds:

> Critical thinking was not about the task of simply reproducing the past and understanding the present. To the contrary, it was about offering a way of thinking beyond the present, soaring beyond the immediate confines of one's experiences, entering into a critical dialogue with history, and imagining a future that would not merely reproduce the present (Giroux, 2010, p. 716).

Giroux (2010) goes on to argue and support the leaders' perception by backing Freire's theory (2018), which promotes critical thinking and disregards the theory of "banking education": where the teacher delivers the subject matter and information to the learners (acknowledged as a transaction) and deposits it on the learners. They recite the work as parrots and regurgitate the information as is. Aronowitz (2009, p. 9) argues that "specifically 'critical' pedagogy helps the learner[s] become aware of the forces that have hitherto ruled their lives and especially shaped their consciousness". The school leader perceives critical pedagogy as a more mediated approach to teaching, where the teacher does not do all the work, but rather facilitates the educational process. Mediation occurs through the teacher's ability to use specific tools that can help the learners to work on their own. "Vygotsky saw an extensive use of tools" (Taber, 2020. p. 6), and the tools at the teachers' disposal include Thinking Maps (Hyerle, 1996; Siew & Mapeala, 2016) and Habits of Mind (Costa & Kallick, 2000; 2005; 2014). The teacher builds on the prior knowledge of the learners and accepts that they are not blank slates: they come to school with their own backgrounds, knowledge and experience, thus allowing for a more collaborative and integrative teaching. Taber substantiates these findings:

> The child who has internalised symbolic tools (such as number systems or, say, chemical formulae) … can now apply them unaided, only does so following previous mediated access to such systems in interaction with others (Taber, 2020, p. 6).

The findings further suggest that senior management believe the Thinking School prepares learners for the future (future driven education), not just for jobs, but to bring innovation to a technological era. The Thinking School ideology is a source of emancipation: it frees learners from being employees to being more entrepreneurial and innovative individuals. According to Martin and Schein "the infusion of cognitive education across all areas of the curriculum [helps] today's students to achieve meaningful progress and become autonomous problem-solvers in their future lives" (Martin and Schein, 2013, p. 19). This will lead to "committed citizens, …vibrant and successful in the future" (Tan, 2006, p. 89). Hashim explains:

> Without a doubt, technology will be a crucial part of … education in the digital era. With the rapid development of technology, the emerging and developing of technology and its application to teaching comes into full play in education (Hashim, 2018, p. 1).

The Thinking School makes use of technology to enhance the educational experiences of learners, as the learners are growing and being visually stimulated.

> Films (videos) (technology) can be another excellent source where students are stimulated to reflect critically on the issues raised in the film (video) and intellectual games are also recommended with their own set of rules which permit open disagreement (Tan, 2006, p. 10).

Although being an employee may not be a top priority in a learner's life, technology is developing a digital workspace. This creates more opportunities and affords more opportunities for learners to use critical thinking and excel in other spheres of life. According to the policy of the South African Standard for Principalship (2015, p. 11), curriculum leaders are responsible and required to "lead the school into the future through the use of ICT [information and communications technology]".

The findings also show that senior management believe the Thinking Schools concept does also develop the child holistically. The belief is that the growth within a child should be mental, emotional, intellectual, physical and social. The leader's perceptions align with that of Iyer: "Holistic education aspires to educate and develop the child as a whole instead of just academically, a goal that should always be kept in mind." (Iyer, 2015, p. 245). The learners may build academic knowledge, but the Thinking School strives to develop a learner that also understands the concept of self through the engagement of metacognition and understanding one's mental and spiritual capacity.

> If secondary and tertiary educational knowledge develops our professional (career) skill, the spiritual knowledge makes us achieve the supreme goal of life that is self-realisation (Bhardwaj, 2016, p. 24).

A holistic worldview and education accepts the fullness and wholesomeness of our human race and assimilates rather than separates our different human potentials and capabilities.

The findings conclude by revealing that senior management also hold the notion that a Thinking School provides a values-driven education: inculcation of the Habits of Mind guides the beliefs, attitudes, and behaviour of staff and learners. The values that the school wants to instil will not stay behind when learners leave the institution, but may be useful after school: "Value-based education is a tool which not only provides us a profession which we can pursue but also a purpose in life." (Bhardwaj, 2016, p. 24).

Value-based education teaches learners a sense of connectedness to their roots. Value-based education keeps learners engaged and involved. It also promotes respect for oneself and individuals around you. This sort of education builds a morally strong individual, and Habits of Mind help to guide the learners' higher education and their careers by using thinking tools, such as the Habits of Mind, to reconcile their thinking with the CAPS curriculum, while promoting learning about identity and understanding of life in a self-exploratory and

scientifically efficient manner through prescribed education (Knight, Howard & Carroll, 2018). The vision and values of cognitive education are linked to disciplined dialogue and reflection. What is interesting is that none of the leaders made reference to Burden's (2006) definition of a Thinking School:

> An educational community in which all members share a common commitment to giving regular careful thought to everything that takes place. This will involve both students and staff learning how to think reflectively, critically and creatively, and to employ these skills and techniques in the co-construction of a meaningful curriculum and associated activities (Burden, 2006, paragraph 1).

Burden (2006) refers to the sharing by school staff of a common language that represents the institution's thinking tools and various strategies staff may employ. Regular discussion may occur on various issues; thus collaboration is seen as central to Burden's definition. Through collaboration learners may acquire various skills and techniques, which they demonstrate once they engage in the different activities and assessments.

Summary

The most dominant theme in senior management's understanding of Thinking Schools is that of critical pedagogy, which is used in various ways by school leaders and which extends into the classroom. Leaders believe it is possible to learn to think and learn more effectively and that this can be taught. Consequently, they see the Thinking School as a place that focuses on teaching learners to think creatively and critically.

The second dominant theme is that of future-driven education. Senior management believes that the Thinking School prepares learners for the future, not just for jobs, but to bring innovation to the technological era.

The next two themes hold the same weight: senior management believes that the Thinking School concept also develops the child holistically – that the child should grow mentally, emotionally, intellectually, physically and socially. Senior management also believes in value-driven education and that inculcation of the Habits of Mind guides the staff and learners' beliefs, attitudes, and behaviour. They believe that value-based education keeps learners engaged and involved, and that it also promotes respect for oneself and the individuals around you.

It is interesting that the leaders did not explicitly mention Burden's 2006 definition of a Thinking School, although I should add that leaders did adhere to Burden's criteria (2008), which were adopted by Exeter University. Thus their perceptions are rooted in Burden's description. They adhered to Burden's criteria in order to obtain accreditation from Exeter University.

5.3.2 Senior Management Curriculum Leadership Roles in Thinking Schools

The findings of my study are discussed in relation to the literature on the roles played by the principal and senior management in developing the institution as a Thinking School. Their roles are discussed in the four dimensions below, namely: organisational conditions; curriculum planning; teaching and learning; and monitoring and evaluation. The fifth dimension, which is disciplined dialogue and reflection is interwoven into the four dimensions. I will now discuss these aspects in relation to the literature on Thinking Schools and cognitive education, leadership in general and then the broad field of the desirability of critical education.

5.3.2.1 Organisational Conditions

My findings suggest that attention to organisational conditions in this school meets the criteria for a Thinking School established by Burden (2008, 2011), Martin and Schein (2013) and Ritchhart and Church (2020).

From the findings it can be concluded that the leader's role in creating physical conditions that support cognitive education is to pay attention to resources such as textbooks, desks, even projectors, and also other important factors such as class size, lighting, and ventilation, etc. Burden (2011) supports these findings, stating that curriculum leaders ensure the existence of suitable conditions for learning and that all available cognitive resources are present. The leader's role encompasses creation of resources for the various classes, but a strong focus is given to providing resources to support cognitive education (Burden, 2011). The physical environment of the Thinking School is full of posters and it is a colourful place. "Many teachers working to make thinking valued and visible in their classrooms have found that posting these thinking moves in their classrooms can be extremely useful." (Ritchhart, & Perkins, 2008, p. 12). The leaders of the school recognise that making the invisible visible "will not only make young people want to learn but come to view learning as a lifelong, verbal-visual connection" (Eckel, 2019, p. 168). Ng comments:

> Current literature shows that instructional leadership does not require the principal be a model or exemplary teacher; but he/she must have the capacity to create the organisational conditions necessary to build pedagogical capacity, expand opportunities for innovation, supply and allocate resources (Ng, 2019, p. 5).

With regards to the social conditions that support learning and teaching, the findings confirm the role leadership plays in promoting Thinking School philosophy and values, and they also encourage the employment of cognitive tools in collaborative learning. The curriculum leaders ensure a high-quality interaction among teachers and especially among learners. They work interdependently to achieve a goal or complete a task, Evans (2020, p. 5) sees "collaboration as process and views collaboration as a domain-general skill that is important in its own right for work and life in society". This role is important as it facilitates and supports a common vision and values in the school community about what they want to achieve. These findings confirm those made by Bates and Morgan (2018) and Tan (2006), who argue that the sharing of opinions and ideas with classmates increases learners' confidence and creates a togetherness

mentality, thus avoiding feelings of isolation and promoting new knowledge. Thus curriculum leaders encourage teachers to enable group discussion, which is seen as an important means to stimulate communication skills, enable discussion between staff, and to share the same vision.

The findings show that in creating social conditions to support cognitive education, the leadership plays a role at the Thinking School through promoting understanding about cognitive education in the school community. Both school leader C and school leader B perform this role. The consistent usage of cognitive language and the Habits of Mind throughout the school brings the message across, enables deeper understanding of a common goal, and helps bind the school to a common vision and mission. This is promoted through collaboration between staff members and sharing ideas with the broader community. Swaffield and Dempster (2008, p. 107) say that scaffolding professional conversations (teacher conversations) ensures that "they are not trivial, trite, piecemeal or sporadic. They are positively focused on the moral purpose of schools and they are all-embracing. Conversations are not irrationally based on stereotype or hearsay, but on reason and values."

School leaders play a role in – and share responsibility for – connecting with the parents and the wider community to include parents/guardians in the decision-making process and to broaden the latter's understanding of cognitive education. The parents and community are connected to the schools via parent-teacher meetings, and briefing sessions are held at the school to keep parents informed. Maponya (2015, p. 10) adds that curriculum leaders "create a culture … where educators, learners and parents work together to carry out the task of education". This can effectively happen through open communication and sharing the process with the whole school community. However, Clutterbuck and Hirst state that "leaders who do not communicate well are not really leading at all; it is one thing to have the position, another to fulfill the role" (Clutterbuck and Hirst, 2002, p. 351).

> [Leaders] need to be able to write and speak … using a level of language expected of leaders. They need to be able to create a space for the sharing of ideas and deliver messages across [the school] (Zulch, 2014, p. 178).

In creating social conditions that support cognitive education the leadership helps promote a Thinking School philosophy and values. Moolla argues that "schools need to demonstrate ownership and commitment to their own development early on" (Moolla 2014, p. 76). The process may never fully flourish unless the whole school shows commitment and believes in this process. Commitment at all levels in the school is a significant factor. Schools will not prosper unless everyone has the same vision and mission. The leaders hold regular meetings with staff and everyone's opinions are valued. Leaders also involve staff in decisions, which is why the "whole-school development is therefore a comprehensive approach to developing schools, involving all stakeholders and elements of the school as an organisation" (Moolla, 2014, p. 64).

Jorgensen also states that curriculum leaders, whether they are staff members or the principal, should be "inclusive of the overall school environment and support mechanisms within the school" (Jorgensen, 2016, p. 371).

The findings indicate that the leader's role in creating social conditions that support cognitive education also includes embedding of the language in the classroom and school. Within a Thinking School, disciplined dialogue (Dempster, 2009) is used through the constant use of Habits of Mind and Thinking Maps, embedding the language throughout the school and being committed to the common goal of enhancing the learner's cognitive abilities.

The findings indicate that in creating emotional conditions that support cognitive education the leader's role is to showcase, create and support an emotional environment to enable engagement with cognitive education in the school: this stems from showing a passion and desire for the Thinking School journey and methodology. "Leadership who maximise curriculum leadership drive the emotions of those they lead in the right direction." (Goleman, 2021, p. 69). A profound and enduring impression is made when a sense of belonging has been induced among teachers and across the school community. A study done by Cherkowski and Walker illustrates the following:

> This feeling of working together towards [an] important common purpose often seemed to create an emotional bond among teachers. Having this sense of collective action towards a shared purpose helped them to navigate through challenging times and in difficult work situations, and contributed to a feeling of fulfilment and meaning in the work of leading their schools (Cherkowski and Walker, 2016, p. 383).

With regard to cognitive conditions to support learning and teaching, the findings confirm that school leader's role is to encourage verbal interaction concerning cognitive education, which allows learners to engage in a more thoughtful conversation directed at developing their awareness of cognitive education and letting learners know about other ways of solving problems (Ashman & Conway, 2017). The leadership supports cognitive conditions at the school and their role entails promoting the display of symbols and terms related to cognitive education by naming and visibly labelling thought processes.

> One major goal of making thinking visible is to facilitate greater understanding among students. Another aim is to enhance students' engagement and independence" (Ritchhart, & Perkins, 2008, p. 22).

The findings demonstrate that the leaders' role is positioned in their ability to use thinking skills and tools in meetings, in their own practice, and also in modelling use of the tools. The leaders' use of thinking skills and tools in meetings demonstrates proactive guidance and helps promote an understanding within the staff setting. Thus coherence is built and all staff members are able to engage with the tools collectively and on their own (Takase, Yasunaga & Shiota, 2020).

The findings also confirm that school leadership's role includes their commitment to promoting staff understanding of cognitive education and its value. The leadership displays commitment to the cause of cognitive education and to encouraging sharing of ideas and resources related to its promotion. "The school improvement agenda has to be effective in focusing the whole school's attention on core learning priorities. There has to be a strong and optimistic commitment by all staff to the school-improvement strategy and a clear belief that further improvement is possible." (Masters, 2010, p. 2). Developing a Thinking School requires the

curriculum leader to use a whole-school approach, which entails a commitment to infuse the values and strategies into all aspects of the school, involving all relevant role players in the decision-making process and committing everyone to the new programme or plan (Mogren, Gericke, & Scherp, 2019). The leaders make a pledge towards enhancement of cognitive education. This is substantiated by Perkins and Reese:

> The principal shows conspicuous commitment to the innovation, advocating it, making it a priority, defending it against critics, explaining it to parents, appearing for key events, and allocating resources. It's no surprise that leadership plays a central role in change. The literature in both education and the corporate world emphasises the importance of leaders inspiring and guiding initiatives (Perkins and Reese, 2014, p. 44).

It is noticeable that little mention is made of how leaders encouraged teachers to prepare the classroom for a more collaborative and interactive space during the COVID-19 pandemic. This contrasts with what is recommended in the literature related to curriculum leadership practices in Thinking Schools, for example Amedeo and Dyck (2003) argue that curriculum leaders in Thinking Schools should enhance learning conditions by improving the physical environment (class size and arrangement of desks). Karakas, Manisaligil and Sarigollu (2015, p. 238) suggest "management instructors provide creative spaces for students in order to engage them". COVID-19 limited interaction between learners: because of the normal seating arrangement with learners facing the front of the classroom, spaced 1.5m apart, they could only see each other's backs. This Thinking School did not make major changes to organisational conditions, but the emphases were specific to its own setting.

Certain practices typical of conventional schools were carried out in a unique manner that reflects the school's identity as a Thinking School. One leader created physical conditions that support cognitive education by actively creating (hands-on) resources to make thinking visible and the making of resources was also to support the use of Thinking School tools and strategies. Thinking Schools may purchase cognitive posters from established publishers or get free posters at seminars. What makes this role so noticeable is the fact that leaders will create new posters for the school and infuse the posters with the CAPS curriculum. This is confirmed by teacher 2

> *[School leader B] will do all the first stacking and the laminating of the boards and [school leader B] will do all the cutting out and laminating all of the little things that [school leader B] will have delivered to the classroom (FGQ5-T2).*

Dempster (2009) states that a curriculum leader's role is to enhance conditions for learning and to make sure that the physical environment is suitable for teaching and learning to take place. The leaders themselves made the poster and the various cutouts, as teacher 3 noted: "They [school leader B and the Drive Team] make it more visual." (FGQ2-T3).

> One major goal of making thinking visible is to facilitate greater understanding among students. Another aim is to enhance students' engagement and independence (Ritchhart, & Perkins, 2008, p. 22).

A new aspect emerged from the findings on social conditions, namely the leader's role in cultivating Thinking Schools methodology, attitudes and ethos. This happened through the

encouragement of audible thinking via media channels, which in turn helped to spread the Thinking School message through the whole school community. It also helped to verbalise internal thoughts from teachers and students. Traga Philippakos supports this statement:

> Audible thinking is the process of verbalising thoughts and making audible to listeners and observers the decisions and the reasoning behind actions in using strategies. Think Out Loud is used by teachers across grade levels as they model the use of cognitive processes (Traga Philippakos, 2021, p. 3).

This enables the school and its leadership to inculcate Habits of Mind and to make sure learners are aware of the cognitive dialogue used by constantly communicating within assemblies and especially classrooms. "School leader C always tries to use the Habits of Mind in his assemblies … or the messages he sends out and the newsletters that are also sent to the parents." (FGQ5-T1). Preston and Barnes (2017) assert that communication with learners, teachers, parents, and community members forms a central part of effective school [curriculum] leadership. Such communication takes a variety of forms, including school newsletters, personal phone calls, and messages in cultural and sporting bulletins. By using the various media channels at their disposal the leadership reaches parents and the wider school community and they engage with them about the various thinking tools and related terminology. The Policy on the South African Standard for Principalship (2015, p.11) also adds that curriculum leaders are responsible and required to "foster the success of all learners and promote a culture of achievement for all learners by communicating and implementing a common vision and mission that is shared by all stakeholders".

Being able to communicate is vital to being an effective leader with the aim of fostering good values and building on the cognitive knowledge that is instilled within the classroom. Reinforcing the messages in the corridors just helps the learners to stay on track and continue with Habits of Mind.

> Communication not only conveys information, but it encourages effort, modifies attitudes, and stimulates thinking. Without it, stereotypes develop, messages become distorted, and learning is stifled (Ramesha, 2021, p. 223).

Principals, on the other hand, are finding social media to be robust platforms for communicating with parents and other community stakeholders (Sheninger, 2014).

Unlike traditional static platforms such as newsletters and websites, social media enable greater interactions with community stakeholders via the two-way exchange afforded. Thus, principals who are master communicators can use social media to (Powers & Green, 2016, p. 135–136) empower teachers, keep stakeholders informed, and foster relationships (Ferriter & Ramsden, 2011, p. 3) and this also allows them to share information and the learning material.

Summary

According to the findings of this study, leadership pays attention to resources (Burden, 2011). In relation to the conceptual framework data and the literature reviewed, the leadership team promotes the Thinking School philosophy and values and encourages employment of cognitive tools in collaborative learning. These findings confirm those of Bates and Morgan (2018) and Tan (2006): connecting with parents and the wider community to include parents/guardians in the decision-making process; showcasing, creating and supporting an emotional environment; using thinking skills and tools in meetings and in their own practice (Takase, Yasunaga, & Shiota, 2020); and using a whole-school approach. The leaders, however, make little mention of their role in encouraging teachers to prepare the classroom for a more collaborative and interactive space. A noticeable leadership role is to actively create resources to make thinking visible. This role is substantiated by Dempster (2009). A new role is the encouragement of audible thinking via media channels: by using various media channels at their disposal, leadership can reach parents and the wider school community (Powers & Green, 2016).

One reason why most of the findings are confirmed is that excellent conditions for any kind of learning are already in place in the Thinking School, which has been on this journey for more than ten years. What is interesting is the fact that participants described the school as noisy and lively, which is not often the case in a conventional school as the noise in a Thinking School is about strategies and their accompanying topics.

5.3.2.2 Curriculum Planning

My findings illustrate that the school's curriculum leadership roles in leading, planning and organising the curriculum meet the criteria for a Thinking School established by Burden (2008, 2011) and Perkins and Reese (2014). As for ensuring the high status of cognitive education to support learning and teaching, the findings confirm that the Thinking School leadership involves the school governing body in the decision-making process. Developing a Thinking School requires the curriculum leader to use a whole-school approach, where all the relevant role players are involved in the decision-making process and everyone shows a commitment to the new programme or plan (Mogren, Gericke, & Scherp, 2019). Brolund, (2016) and Maponya (2015) state that curriculum leaders should include all role-players in assisting and supporting the school, i.e. the community, old students and parents.

The curriculum leader's role of involving stakeholders in planning and decision making related to the curriculum is supported in both the literature and in related South African policy. Mncube (2009) comments:

> The South African Schools Act 84, 1996 (SASA), which came into effect at the beginning of 1997, emanated from a White Paper. In terms of this Act, all public state schools in South Africa must have democratically elected School Governing Bodies (SGBs) comprising parents, learners, educators, non-teaching staff and the school principal. Their functions include creating an environment conducive to teaching and learning, developing a mission statement for the school, promoting the best interests of the school, decision making about school improvement, ensuring quality education for learners, safety and security of learners, deciding on school-uniform policy,

> disciplinary action and policy regarding determination of school fees (Mncube, 2009, p. 83).

The leadership's role was also to investigate and promote the level of buy-in within the school from staff members and all role players related to the curriculum goals and values of a Thinking School. "Thinking Schools need to demonstrate ownership and commitment to their own development early on." (Moolla, 2014, p. 76). This commitment will take a collective effort from all participants in the school. Early attempts by individual teachers to implement thinking-skill interventions in schools were frequently unsustainable, sometimes because of a lack of interest from staff members or use of inappropriate implementation strategies (Moolla, 2014). The school improvement plan or agenda can only be effective if all stakeholders at the school believe in the plan and the way forward.

> Experiences of school improvement in East Africa indicate that the impact of training on the quality of teaching and learning is greater and more sustainable when the whole school is taken as a unit of educational change (Murtaza, 2010, p. 215).

Therefore, leaders should also share responsibility with the rest of staff and the community in making the school inclusive and instilling a sense of ownership in all stakeholders (Bush, Bell & Middlewood, 2019).

The findings also confirm that leaders should facilitate change in introducing the Thinking School concept and strengthening staff capacity. In this study case the whole school (staff, parents and learners) were briefed about the new journey to be undertaken and regular information sessions were held: so in order for whole-school development to succeed everyone needed to accept and trust the process. The whole-school development is directed at building the institution's capacity in order to bring about change. The organisation has to become a learning one. The organisation has to improve the quality of teaching and learning (Moolla, 2014). The whole-school approach can be implemented in phases in order to accommodate the new way of teaching and also so that teachers and learners may acclimatise to this new pedagogy, which "encompasses concepts such as school effectiveness, school improvements and organisational development in a process that facilitates change in schools and classrooms" (Moolla, 2014, p. 64–65).

In reviewing major cognitive education programmes, it was confirmed that the leadership's role was to share with staff the decision-making process concerning which thinking methodology should be implemented. In order for active teaching of thinking to take place school leaders need to be more flexible and to delegate some decision making and authority to teachers as leaders in their respective classrooms (Costa & Kallick, 2014). Bernhardt (2017) adds that curriculum leaders will design and plan the schooling programme with all stakeholders on a strong evidence-based foundation.

> A district or school's curriculum leadership committee engages in deliberations for designing a platform. This committee is typically made up of teachers, parents, community members, central office, colleagues, students and university colleagues. The key purpose for involving faculty members in the platform design work is to create

> common ground for curriculum planning and enactment (Henderson & Gornik, 2007, p. 97).
>
> Curriculum planning ranges from deciding what will happen in the classroom tomorrow through a lesson plan, to developing a four-week integrated unit with other teachers, to planning a full programme, under which many courses may exist." (Henderson & Gornik, 2007, p. 94).

All of this is done with every staff member, so that a consensus can be reached.

Under the aspect of drawing up plans for cognitive education at a whole-school level, the findings confirm that the leaders were to be involved in the setting up of financial budgets, as stated by Martin and Schein:

> Leadership will provide specific support to the academy through: oversight of the mission and vision, programme implementation, general management of the academy, financial management through review and approval of budgets and financial recordkeeping, implementation of contracts, deployment of personnel, publicity, and advocacy (Martin and Schein, 2013, p. 22–23).

Leaders also set goals based on student performance related to the infusion of cognitive education in the curriculum, with emphasis on the twenty-first century. The curriculum leader's role entails "the infusion of cognitive education across all areas of the curriculum in order for today's students to achieve meaningful progress and become autonomous problem-solvers in their future lives" (Martin & Schein, 2013, p. 19). A strong evidence base is essential for the planning and designing of a curriculum. Planning and designing that is evidence based of some kind helps keep discussions disciplined and meticulous (Dempster, 2009). Manesh (2016) says this helps them set goals. Dempster (2009) adds that detailed records should be kept, as evidence-based planning is at the heart of the curriculum. Learner performance levels, assessment tasks and activities and also examination results would be used by curriculum leaders to set aims and objectives and stimulate curriculum developments as stated in the policy of the South African Standard for Principalship (2015, p. 11), which mentions that curriculum leaders are responsible and required to "develop and implement an instructional framework that is data-driven, research-based, and aligned with the national curriculum". The curriculum leaders would make sure that the school and its learners thrive in the forthcoming, futuristic economy: critical thinking and the ability to solve difficult problems are essential in order to maximise potential in the future (Yahya, 2017).

Furthermore, my findings show that leaders' role is to organise network meetings with other Thinking Schools and to create a committee to oversee development of cognitive education within the school. Nigar (2021) agrees with the findings and asserts that curriculum leaders would open doors for networking and develop professional learning communities within the school parameters. This is confirmed by Azorín (2022):

> The potential of learning networks has been recognised as an efficient strategy for improvement in schools, thus, it can be argued that the inescapable advancement of networking environments is closely linked to the growing number of collaborative alliances and the increasing connections between education stakeholders. Networks

> represent an innovative paradigm that is able to promote and support school development and address problems collaboratively and flexibly (Azorín, 2022, pp 64–65).

The Thinking School (school management team) created what is known as the Drive Team that helps the cognitive facilitator and teachers to stay on track and overcome obstacles respectively. The Drive Team consists of teachers that were sent for further training so that they can support the cognitive facilitator. Curriculum leaders in Thinking Schools involve the cognitive educator in organising and implementing the curriculum throughout the school (Burden, 2008). Thanks to the support of the Drive Team the cognitive facilitator can undertake more at the school, especially when it comes to curriculum work.

> Leaders and middle managers (HOD) should hold regular meetings with the educator team to plan teaching and to discuss problems and model good practice by taking lessons while educators observe. They should also observe educators regularly and provide structured and constructive feedback to enhance teaching and learning; evaluate learner outcomes; and design strategies to improve classroom practice and monitor the work of educators through scrutiny of work plans and learner outcomes (Bush, Joubert, Kiggundu, & van Rooyen, 2010, pp. 1–6).

The Drive Team is an effective way of dealing with problems in the school. The Drive Team also evaluates teacher lessons and provides input on how they can improve lessons and use thinking tools effectively. The Drive Team helps teachers stay relevant and up to date with information about cognitive education as they promote "study groups among peers, team meetings to plan lessons and whole-school improvement programmes" (Mizell, 2010, p. 9). O'Neill and Kitson (1996) also emphasise the role of heads of department (HOD) or subject co-ordinators in the management of quality teaching and learning in primary schools.

The findings also confirm that the Thinking School leadership's role is to engage staff in slow and purposeful training; promote lifelong learning through workshops; and make use of external professional bodies. The leaders in the school negotiate and adopt a professional development plan to enhance cognitive development (Hompashe, 2018), then they ensure that the instructors are knowledgeable in fostering a classroom atmosphere that stimulates critical thinking (Sungur & Tekkaya, 2006). Thus the findings reveal that leaders use thinking skills and tools in meetings (Habits of Mind and a growth mindset versus a fixed mindset) and in their own practice. This enables the staff to see how the thinking tools should or can be used and it also allows for the staff to ask questions. The curriculum leaders also "send a few teachers each year to a summer institute where they learned about the initial framework, however, the school also takes care to ensure alignment across the faculty" (Perkins & Reese, 2014, p. 43). The leadership team also ensures that the "new hires are to receive some orientation to the innovation … and the leader manages the programme on the ground, organising faculty groups and events and conducting some training and coaching" (Perkins & Reese, 2014, p. 44) about cognitive education and teaching thinking.

Lieberman and Mace (2008) emphasise that teacher education is crucial to enabling reform in education. Curriculum leaders would grant teachers access to individuals with the knowledge and capabilities to provide the desired information. The curriculum leaders provide

opportunities to learners "to associate with and be mentored by people from different fields in industry and institutes of higher learning, to conduct research and explore a topic in greater depth, and to learn more about current affairs and different cultures" (Tan et al., 2017, p. 8). They also attend Thinking Schools South Africa Roadshows, which allow the school to upgrade their current knowledge through access to literature and information that is never stationary, but mobile, so the staff regularly attend TSSA Roadshows to keep abreast of current knowledge in the cognitive education paradigm.

The school leader's role also entails helping teachers at other schools through demonstrations of how to use thinking tools. These curriculum leaders ensure that the school has "worked with and held information evenings for parents and board members to learn about a new initiative, with teachers demonstrating the framework in action" (Perkins & Reese, 2014, p. 45). The same information meetings have been held with other schools in order to facilitate their progress in the Thinking School sphere. This initiative helps schools grow and become sustainable in their journey through constant access to established Thinking Schools.

In engaging in inquiry about cognitive education with staff, leaders embraced the Thinking School philosophy and demonstrated their full commitment to the Thinking School ethos.

> The school improvement agenda has to be effective in focusing the whole school's attention on core learning priorities. There has to be a strong and optimistic commitment by all staff to the school improvement strategy and a clear belief that further improvement is possible (Masters, 2010, p. 2).

Certain factors are common to those schools where there is commitment of teachers to a thinking-skills programme, most importantly the support of the head teacher; a shared vision between the head and class teacher involved; and the presence of at least one other teacher committed to the innovation (Adey, quoted in McGuiness, 1999). "Thinking Schools need to demonstrate ownership and commitment to their own development early on." (Moolla, 2014, p76). Curriculum leaders in Thinking Schools should make a strong commitment to cognitive education (Hompashe, 2018).

The findings also confirm that in their curriculum and lesson planning, leadership strives for the right methods to teach thinking. The curriculum leaders ensure regular opportunities for staff to update their knowledge and also provide opportunities for everyone to share their ideas and views. Schools can become successful if they allow for more creative ideas from stakeholders.

> Creative people take risks and frequently push the boundaries of their perceived limits. Creative people are open to criticism and they are always seeking feedback in an ever-increasing effort to refine their technique (Costa et al., 2014, p. 90).

Curriculum leaders encourage new ideas from teachers and the trying out of new methods to enhance thinking (Burden, 2008, Le Fevre, & Robinson, 2015). Curriculum leaders also played a prominent active role in planning how to consciously integrate the Thinking School values, tools and strategies into the formal CAPS curriculum, which is also "designed to collect,

analyse, organise and critically evaluate information" (CAPS, 2012, pp. 3–4). This is confirmed by school leader C:

> *Once you've got your curriculum, your CAPS curriculum, and you can see what you're going to do for each term, you can probably see which aspects of thinking, skills, philosophy … you can bring in at the right time of the year and pair … with the CAPS curriculum skills (IQ3-SLC).*

This Thinking School did not introduce major changes, but emphasised aspects specific to its own setting, such as leadership's unpacking of thinking tools in classrooms and provision of practical examples. Manaseh supports these findings and teacher 1 explains:

> [Curriculum leaders] are facilitators in the sense that they are able to assist others in the teaching and learning process, and are able to demonstrate teaching techniques in the classroom and during general meetings with teachers (Manaseh, 2016, p. 37).

> *I found it more helpful when I was able to see practical examples of those tools being used in a classroom, because through that I was able to see how to make use of those tools in the correct ways, in my own class (FGQ6-T1).*

Thinking Schools and high-performance schools apply strategies that allow teachers to continuously observe the practices of their colleagues and to learn collectively (Barber & Mourshed, 2007). The Thinking School provides frequent opportunities for modeling, observations and feedback from informed practitioners who have demonstrated expertise in similar classroom settings (Lieberman & Mace, 2008; Desimone, 2009).

With regard to cognitive education within and beyond the school, a new aspect emerged from the findings, namely that the leadership supports parents' use of Habits of Mind in the home. School leaders keep parents informed about the Thinking School language; encourage learners to hold discussions with parents; ensure the use of such thinking language in the various school codes (sport and culture); and embed the language through their comments in reports. Maponya (2015) complements these findings and school leader A comments:

> The curriculum leader is to create a culture that is conducive to teaching and learning, or a culture where educators, learners and parents work together to carry out the task of education (Maponya, 2015, p. 10).

> *The children use the language at home, so the parents use the [thinking] language as well, and they would use the language next to the rugby field. It's about persisting and the parents are very informed about the language, because it is used all the time (IQ3-SLA).*

This persistence in using the language helps to foster a school culture that everyone associates and connects with and understands. Leithwood and Riehl (2003) and Wu and Crocco (2019) found that in order for a school to become organised, dialogue has to occur among teachers, learners, parents and the broader community. The importance of doing so is stressed by school leader C:

> *In terms of leadership, you've got to get the parent. You have to get the whole community …. It can't just be [the] school. Your parents … should know how to do the*

thinking, your parents should know all of the Habits of Mind. They should be using them when they're setting up their shopping lists and when they're talking to the [learner] about his behaviour (IQ4-SLC).

Maponya states that curriculum leaders should *"involve all the stakeholders in supporting the school, i.e., the parents and the community"* (Maponya, 2015, p. 5). Curriculum leaders in Thinking Schools should plan to develop the capacity of parents/guardians and they should participate actively in professional development (Lambert, 2002; Sibanda, 2017).

Summary

Taking into account the conceptual frameworks data and the literature reviewed, the findings of this study reveal the following leadership roles: involving the school governing body in the decision-making process; sharing with staff the decision-making process concerning which thinking methodology to implement (Bernhardt, 2017); setting up financial budgets; setting goals based on student performance; organising network meetings with other Thinking Schools; Curriculum leaders also played a prominent active role in planning how to consciously integrate the Thinking School values, tools and strategies into the formal CAPS**.** creating a committee (Drive Team) (Burden, 2008) to oversee development of cognitive education within the school; and promoting the effectiveness of this Drive Team in dealing with problems at the school. The Drive Team also evaluates teacher lessons and provides input on how teachers can improve their lessons and use of thinking tools; engage in slow and purposeful training (Sungur & Tekkaya, 2006); promote lifelong learning through workshops; make use of external professional bodies; and help teachers at other schools through demonstrations on how to use thinking tools. An important role was the unpacking of thinking tools in classrooms and provision of practical examples (Manaseh, 2016). A new role that leaders enacted was to ensure the use of appropriate language (Habits of Mind) in the various school codes (sport and culture) and to embed the language through their comments in reports.

The positive findings demonstrate that the school had ample time to plan its journey and to attend many information sessions and seminars. The school was also guided by an accredited Thinking School in South Africa, which served as a template in its planning to become accredited. The leaders of the Thinking School also have the necessary capacity for planning, which flows from their ability to adhere to Thinking Schools criteria (Burden, 2008). It is interesting that the school leaders sat with the CAPS document and planned in advance what topics would be associated with a particular thinking tool. This was done for each grade and for each term on a weekly basis.

5.3.2.3 Teaching and Learning

My findings indicate that the attention paid to supervising and improving teaching, learning and assessment in this school meets the Thinking School criteria established by Burden (2008) and Martin and Schein (2013) and recommendations made by Burden and Nichols (2000).

An analysis of leadership's mentoring of teachers to integrate thinking skills and strategies into all teachings, reveals the following curriculum leadership roles: showing teachers how to

encourage learners to name and use Habits of Mind (e.g. working interdependently) in groups and in pairs; active mediation of thinking strategies "in which the teacher will lead, guide, ask important questions, and/or demonstrate" (Martin & Schein, 2013, p. 319); and active modelling of thinking skills and strategies (Burden, 2008). Leaders also encouraged teachers to promote questioning among learners and to lessen their involvement in class (teachers were instructed by leaders to be mediators and facilitators). The leadership team wants learners to participate actively in lessons and classroom discussions (Oros, 2007; Johns, 2015; Kangas, 2016; Feuerstein, R; Feuerstein, R; & Falik, 2015). To this end, teachers have to facilitate classroom discussion and stimulate conversation on various topics. Wiboonwachara (2019) asserts that learners should question information. They should also reflect on lessons and assessments.

> [Curriculum leaders] encourage schools to 'teach less, learn more'. The aim of curriculum leaders is for teachers to teach better by engaging the students and preparing them for life, rather than merely teaching more for tests and examinations (Tan, 2006, p. 9).

Decman (2020) agrees that teachers should encourage learners to actively participate in lessons. The curriculum leader's role is to ensure that learners do more than listen passively to teachers, which means that learners have to actively engage in class.

Teachers should be encouraged to use Thinking Maps to present a visual thinking experience and to promote flexible thinking by curriculum leaders in classrooms and the staffroom:

> [Thinking Maps] may be described as a synthesis of three types of visual tools that educators and business people have used for generations: mind-mapping (brainstorming webs for creative thinking), graphic organisers (for more analytical thinking) and thinking-process tools such as systems and concept mapping (for concept development) (Hyerle, 2014, p. 161).
>
> Thinking Maps make an excellent addition to any classroom because they teach students to think critically about subjects and form connections between subject disciplines. By watching their thoughts unfold in front of them, they will be better equipped to make curricular connections and develop deeper knowledge and understanding of concepts (Long and Carlson, 2011, p. 5).

Thinking Maps form a "useful tool for helping younger students with the process of building conceptual understanding of content and promoting achievement" (Mona & Khalick, 2008, p. 298).

Leaders should also encourage the use of specific language through Thinking Maps to enhance higher order thinking skills:

> This common visual language of visual tools integrates the creative dynamism of webs, the analytical structures of content-specific learning, and the continuous cognitive development and reflections fostered through conceptual mapping. Over time, new visual languages may develop that integrate different visual tools, thus enabling a greater range of thinking, communication and reflection (Hyerle, 2014, p.77).

Thinking Maps can develop certain cognitive languages and terms that stimulate further discussion in class and promote the thinking ideology.

> At any time learners can access this thinking language – using it on paper or through software – to construct and communicate networks of mental models of linear and nonlinear concepts (Hyerle, 2014, p. 87).

Furthermore, school leaders should make sure that teachers use technology to enhance cognitive education: "Short videos are key to a successful conversion of course material if utilised appropriately." (Schmidt and Ralph, 2016, p. 6). Teachers are encouraged to use more videos and pictures and to display various Thinking Maps via projector and laptop.

> Films (technology) can be another excellent source where students are stimulated to reflect critically on the issues raised in the film and intellectual games are also recommended with their own set of rules which permit open disagreement (Tan, 2006, p. 10).

The school leader also supports teachers in their attempts to make learners understand their own thinking processes. This curriculum leadership role in a Thinking School is identified by Martin and Shein (2013), who state that the teacher needs to support learners to reflect on their mental processes. For teachers to be able to do this, Green (2014) argues, leaders need to encourage metacognitive processes in curriculum planning and assessment tasks.

The findings show the leaders' role involves using Habits of Mind in their everyday engagement (with staff or learners) – and promoting the ideology behind it to encourage reasoning and questioning. The leadership team members use the thinking language in meetings, assemblies and everyday engagement with learners. Habits of Mind inculcate the mental discipline to develop a routine of working toward more articulate and intellectual accomplishments (Costa and Kallick, 2014). The Habits of Mind disposition leads learners to reflect on, assess, adapt and transmit applications of what they have studied and make it the norm. Constant use of Habits of Mind within a Thinking School promotes disciplined dialogue and its associated ideology. This enables open discussion and discourse. In addition, teachers should facilitate the reading of scripts from various points of view. Learners should be able to assess and analyse the author's bias, credibility, and quality of reasoning in those scripts (How & Wig, 2017).

> [The curriculum leadership] encourages the learners to actively participate in their own educational process by using thinking strategies (Habits of Mind) to question what they are being taught and to enhance the reasoning skills (Alhamlan, Aljasser, Almajed, Almansour & Alahmad, 2018, p. 31).

The findings confirm that in encouraging teachers to incorporate attention to thinking in assessment tasks, the leader's role is to promote and instruct the use of Bloom's Taxonomy in planning, setting exam papers, and determining the range of questions used in discussion.

> Bloom's Taxonomy can differentiate between cognitive skill levels and calls attention to learning objectives that require higher levels of cognitive skills and, therefore, lead

> to deeper learning and transfer of knowledge and skills to a greater variety of tasks and contexts (Adams, 2015, p. 152).

Teachers are instructed by leaders to use a range of taxonomies, as this would allow the teachers to reflect critically on the quality of assessment tasks and inquiry at the school (Venter, 2005; Abosalem, 2016). The taxonomy helps teachers and leaders recognise the intelligence level at which individual learners are capable of functioning. It also helps them generate teachings aimed at critical thinking and asking questions.

There is little evidence, however, of the leadership team getting staff to use other thinking strategies such as Instrumental Enrichment (Feuerstein 2012, 2021); Philosophy for Children (Lipman, 1982; Gregory, Haynes & Murris, 2017); and Six Thinking Hats (De Bono, 2017; Kivunja, 2015). These theories can help curriculum leaders engage the learners and elicit more responses from them, but it has to be said that one thinking strategy should not take preference over others: it's all about the training undergone by staff. Feuerstein's Instrumental Enrichment (IE) skills programme was derived from his 1979 theory of structural cognitive modifiability. It is based on his active-modification approach.

> [This theory concentrates on] the individual's ability to cope with his/her environment. The programme aims to increase the child's ability to modify and adapt through the experience of real-life events in both formal and informal learning situations (Feuerstein, Rand, Hoffman, & Miller, 1980).

The collaborative inquiry advocated by Philosophy for Children, designed by Matthew Lipman in 1969, involves presenting and teaching reason and logic in a children's story.

> Philosophy for Children (P4C) is a learning-to-think programme designed to foster high-order reasoning skills and administered across the world (García-Moriyón, Rebollo & Colom, 2005, p. 1).

P4C teaches reasoning skills to the learners so that they are better equipped to ask questions and understand topics:

> Philosophy for Children aims at a radical change in education – from an approach that emphasises the role of the teacher and is based on knowledge transfer to an approach that puts the child at the centre and emphasises learning by discovery and experiment, and the construction of knowledge (Vansieleghem (2005, p. 19).

Teachers who made use of P4C witnessed changes in their learners. They found that there was "greater engagement by children, more structured interactions, greater interpersonal respect and greater awareness of thinking" (Green, 2014, pp. 137–138).

The Six Thinking Hats were designed and created by Edward de Bono, who invented the concept of lateral thinking. A world-renowned writer and philosopher, he is the leading authority in the field of creative thinking and the direct teaching of thinking as a skill. Lateral thinking allows the brain to maximise its sensitivity in different directions at different times. (De Bono, 2017, pp. 5–9). The Six Thinking Hats are coloured Blue, Black, Red, Green, Yellow, and White, and each hat denotes a different rational and logical method for critical thinking and solving problems.

> The wearing of different coloured hats enables the wearer to bring a different perspective to thinking critically about an issue and to trying to find alternative solutions to any problem confronted (Kivunja, 2015, paragraph 6).
>
> There are two main purposes to the Six Thinking Hats concept. The first purpose is to simplify thinking by allowing a thinker to deal with one thing at a time. The second main purpose of the Six Thinking Hats concept is to allow a switch in thinking (De Bono, 2017, p. 133).

Certain curriculum leadership practices typical of conventional schools were carried out in a unique manner that reflects the school's identity as a Thinking School. The above mentioned analysis of the data also revealed four new curriculum leadership roles, namely: ensuring the use of language in various codes (cultural and sporting events) at the school; and extending values (thinking language and cognitive educational practices) into the home environment. *"We use the Habits of Mind because we believe it should come from family life at home,"* comments school leader C:

> *Your parents … should know how to do the thinking. Your parents should know all of the Habits of Mind. They should be using them when they're setting up their shopping lists and when they're talking to the [learner] about his behaviour (IQ4-SLC).*
>
> This logic represents a shift from [the] traditional way of school management in the previous century, where principals were framed only within the educational context rather than [the] social or organisational [context] (Alhamlan et al., 2018, p.32).
>
> It is important to note that using any one or even a few strategies will not help educators acquire the Habits of Mind automatically. The key is to explicitly teach the habits and then create learning experiences that incorporate the habits holistically, such that participants have practice activating the habits over time (Bocala & Boudett, 2015, p. 8).

School leader A refers to the use of *"Habits of Mind and Thinking School strategies in our meetings, staff development sessions, in our lesson planning, reports and assemblies" (QQ4-SLA),* thus always showing the staff how to actively engage with the various strategies.

A new aspect that emerged from the findings was that leaders support teachers in developing Uber Tasks (cognitive lesson plan) and encourage questioning by learners. This cognitive lesson plan is aligned with the CAPS document. Leaders show teachers how to set up an Uber task and infuse it with a specific thinking tool, all of which depends on the topic being taught at that specific time, as Teacher 1 explains: *"They also set a target for us where we've got an Uber task, which is like a fantastically prepared, well thought out lesson and we follow a special lesson plan (IQ1-T1)."*

Summary

Based on the conceptual frameworks data and the literature reviewed, the findings of this study support the roles played by the leadership team: showing teachers how to encourage learners to name and use Habits of Mind (e.g., working interdependently) in groups and in pairs; active mediation of thinking strategies by active modelling of thinking skills and strategies (Burden, 2008); using Thinking Maps to present a more visual thinking experience and to promote

flexible thinking (Long & Carlson, 2011); making sure that teachers use technology to enhance cognitive education; supporting teachers in their attempts to make learners understand their own thinking processes (Green, 2014); promoting the use of Bloom's Taxonomy in planning; setting exam papers; and determining the range of questions used in discussion.

It was noticeable that there was little mention of the leadership making use of other thinking strategies such as Instrumental Enrichment (Feuerstein 2012, 2021); Philosophy for Children (Lipman, 1982; Gregory, Haynes & Murris, 2017); and Six Thinking Hats (De Bono, 2017; Kivunja, 2015). The findings revealed the noticeable leadership role of extending values (cognitive practices) into the home environment as well as the leaders' support for teachers in developing Uber Tasks (cognitive lesson plan). This cognitive lesson plan is aligned with the CAPS document and is infused with a specific thinking tool, all of which depends on the topic which is being taught at that specific time. Teacher 1 explains: *"They also set a target for us where we've got an Uber task, which is like a fantastically prepared, well thought out lesson and we follow a special lesson plan." (IQ1-T1).*

The Thinking School has benefited from considerable training and ongoing development, so staff members were more than capable of delivering the effective teaching of thinking. It should be mentioned, though, that training staff in various thinking strategies may prove costly and time consuming. Trying to include different cognitive methods may overwhelm the learners, as this would entail much to remember and execute. Creating the Uber task is vital in ensuring that teachers are up to speed with the CAPS curriculum.

5.3.2.4 Monitoring and Evaluation

My findings suggest that evidence-based monitoring and evaluation in this school meet the criteria for a Thinking School established by Burden (2008) and Perkins and Reese (2014).

Analysis of this aspect confirms the many curriculum leadership roles on monitoring, including book checks to determine the level of buy-in

> [Curriculum leaders rely] on schemes of work, lesson plans, subject logbooks and class journals to monitor classroom teaching. Heads of school also held meetings with class teachers and asked students about the extent of syllabi coverage (Manesh, 2016, p. 39).

The book checks allow leaders to see how far the curriculum has been covered, but more importantly what thinking tools the teachers have been using; checking of planning; tests and evidence. Kusek and Rist champion these findings:

> Evidence-based evaluation provides information that is credible and useful, enabling the incorporation of lessons learned into the decision making process for the future (Kusek and Rist, 2004, p. 204).

Leithwood and Riehl (2003) agree and hold firm that school leaders that spend extra time monitoring and reviewing school results – and developing tangible ideas for the enhancement and progression of these ideas and or policies – have a greater impact on results and can set better goals.

> [Curriculum leaders also] investigate how teachers have adjusted curriculum and instruction to foster critical thinking among students and to what extent the system has achieved the broadest goals of education by engaging students on critical thinking (Tan et al., 2017, p. 4).

The leaders also promote moderation of tests by using Bloom's Taxonomy, which is used to reflect critically on the quality of assessment tasks, and inquiry in the school (Venter, 2005, Abosalem, 2016).

> Bloom's Taxonomy can differentiate between cognitive skill levels and calls attention to learning objectives that require higher levels of cognitive skills and, therefore, lead to deeper learning and transfer of knowledge and skills to a greater variety of tasks and contexts (Adams, 2015, p. 152).

This allows leaders to see whether teachers have made provision for all the learners in terms of their cognitive abilities and how the Habits of Mind are merged into the tests. Findings on monitoring and evaluating the effectiveness of school and classroom programmes and strategies to develop thinking confirms leadership's role in checking that any thinking approach that has been introduced works well. Perkins and Reese back these findings:

> [Curriculum leaders ensure] that all teachers are broadly aware of the initiative and target framework – for instance, through a whole-school introductory workshop. It continues by keeping all faculties broadly aware of progress – for instance, through quick reports, posting student work on bulletin boards in classrooms and halls, and yearly 'fairs' in which participating teachers share their work (Perkins and Reese, 2014, p. 45).

Leaders use monitoring and evaluation to improve the curriculum by way of its modification and adaptation (Williams, 2014; Bush, 2008; Leithwood, 2005).

Analysis of this aspect confirms many curriculum leadership evaluation roles: These include evaluation of how Thinking School leaders ensure feedback and recaps through exercises and pair work. Using various reflection tools in lessons so that learners can reflect critically on a topic and discuss what they perceive as positive, negative and interesting from the said topic is another role. Leaders and teachers in the inquiry process are important to learning, which includes securing evidence from student feedback and classroom practices (Timperley, Wilson, Barrar, & Fung, 2007). According to Perkins and Reese (2014, p. 43), "allowing for individual implementation of the framework with frequent feedback from colleagues was a common theme among several leaders we surveyed". This is not seen as ideal: thus Artzt and Amour-Thomas (1999), on the other hand, found that curriculum leaders who engage in self-reflection and who collect student feedback will start to examine the degree of student involvement and adjust their instructional practices accordingly. Henderson and Gornik (2007, p. 68) argue that "reflective practice is often not best done in isolation; moreover, this is truly collaborative work". By obtaining evidence of Uber Task (lesson plan showing integrated cognitive strategies) write-ups, the curriculum leadership of the school can check if teachers are incorporating cognitive tools in their lesson plans and make sure that teachers use the correct tools for a given topic. Using the lesson plan (Uber Task) helps a teacher to use resources, time, supplies and strategies to an optimal level (Iqbal, Siddiqie, & Mazid, 2021).

Another role involves evaluating teachers' planning and implementation of Thinking Maps in the classroom.

> Curriculum leaders who make use of the evaluative approach [require] disciplined, critical and visionary thinking with an emphasis on case-by-case deliberations (Henderson & Gornik, 2007, p. 148).

So the leaders will incrementally look at the teachers' planning and how they include Thinking Maps in their lessons.

With regard to analysis of monitoring and evaluating learner change, the findings confirm the following curriculum leadership roles: to ensure that teachers make learners feel they belong and don't feel isolated, which is why "collaboration supports a togetherness mindset and develops collective knowledge that extends beyond individual, isolated experiences in classrooms" (Bates & Morgan, 2018, p. 624); and to monitor whether teachers use the tools as self-reflective criteria in the disciplinary process. Leithwood and Riehl (2003) and also Wu and Crocco (2019) accordingly argue that proactive leaders need to inspire staff to use reflection to examine the norms of their pedagogy and rethink ways in which it can be executed or implemented.

Leaders have also formed a Thinking Schools committee (Drive Team) that helps to ensure that all grades engage with different tiers of thinking skills. The Drive Team helps teachers stay on track; makes sure leaders are supported in taking things forward; picks up on what is working/not working; makes suggestions; helps troubleshoot when necessary; and encourages teachers to check on learner well-being. The curriculum leaders use the Drive Team to ensure that a deepened dialogue on specific issues occurs frequently, especially during meetings and subject gatherings (Spare Wheel planning and evaluation model) (Burden, 2008), bearing in mind that some teachers may be reluctant to speak in front of all staff members. The curriculum leaders ensure "teachers meet regularly in small groups to discuss experiences" (Perkins & Reese, 2014, p. 44) about teaching thinking; to share their ideas on how to solve problems in the classroom; or just to show other staff members how to implement a specific thinking strategy.

With regard to reflecting on and monitoring development of the Thinking School, the findings show that leaders are accountable and support their staff at this school. Curriculum leaders support the teachers (Brolund, 2016) and they need to negotiate, be accountable, take responsibility and check for fundamental challenges in teaching the thinking and learning process (Owen, 2020) of their staff members. Their availability to share information is crucial in enabling their staff to perform under pressure, especially new staff members.

This Thinking School did not introduce major changes, but it introduced emphases specific to its own setting. Examples (roles) included the creation of a space by leadership for presenting of planned implementation, so that leaders could see whether or not plans were acted upon. Curriculum leaders would implement evaluation and monitoring processes to determine the successes and failures within the school, but this would be built upon an evidence-based foundation (Bernhardt, 2017) to the cognitive strategies used. The leadership of the school

allowed teachers to present their lessons in front of the entire staff or just at Drive Team meetings. This was done to make sure teachers were conveying the cognitive message in their lessons and to make sure they infused the thinking strategies with CAPS content, as Teacher 4 comments:

> *The SMT would put a column into our planning documents and then maybe every lesson, but once a week or whatever, we have to use the Thinking Maps and then implement how we use Thinking Maps …. We would have … meetings where every grade would have to bring … one or two of the examples of what they've done in the grade, so we could see how it was being implemented from Grade R all the way to Grade Seven (FGQ1-T4).*

Summary

In connection with the conceptual frameworks data and the literature review the findings of this study affirm that the leadership team played roles to: ensure monitoring through book checks that determine the level of buy-in (Manesh, 2016); obtain evidence of Uber Task write-ups (Iqbal, Siddiqie, & Mazid, 2021); moderate tests by using Bloom's Taxonomy; evaluate teachers' planning and implementation of Thinking Maps in the classroom; check that any thinking approach works well (Perkins & Reese, 2014); monitor whether teachers use the tools as self-reflective criteria in the disciplinary process; and form a Thinking Schools committee (Drive Team) (Perkins & Reese, 2014). It was noticeable that leaders created a space for the presentation of planning implementation. The leadership of the school allowed teachers to either present their lessons in front of the entire staff or just at Drive Team meetings. Teacher 4 comments:

> *We would have … meetings where every grade would have to bring … one or two of the examples of what they've done in the grade, so we could see how it was being implemented from Grade R all the way to Grade Seven (FGQ1-T4).*

The effective performance of roles may be attributable to the fact that the leadership monitored and evaluated staff to ensure the success of the thinking programme. The school was a conventional school, so most roles are in place when it comes to monitoring. What makes it different now is that the staff has to engage with cognitive educational practices: so leaders have to evaluate the effectiveness of the programme to pre-empt inconsistencies throughout the school.

5.4 Conclusion

The purpose of this chapter was to offer an analysis and discussion of the findings that resulted from chapter four. The key dimensions were illustrated and the leadership team's understanding of what constitutes a Thinking School were discussed and elaborated on in relation to the literature review. The discussion then highlighted the confirmed curriculum leadership roles within the Thinking School in relation to the literature review. Curriculum leadership roles that were not mentioned by the participants of the Thinking School were also examined and the discussion also expanded into new curriculum leadership roles at the Thinking School. Summaries were made for each subsection (leaders' perceptions and curriculum leadership roles), which were analysed in relation to the conceptual framework.

The next chapter (6) contains an introduction; a description of the study's strengths; an explanation of its limitations; and recommendations.

Chapter 6

Conclusion and Recommendations

6.1 Introduction

In this chapter I will briefly relay the key findings of my study, discuss its strengths and limitations, make recommendations, and state the conclusion.

6.2 Overview of the Aims and Objectives of the Study

Data that emerged from the digital online questionnaires, interviews and focus-group interviews were used to address the main research question: what curriculum leadership practices by senior management support the development of a selected primary school as a Thinking School? Interviews with senior management focused on their experience and roles as leaders within a Thinking School, and how they perceive a Thinking School. The teachers' focus group interview focused on their experience in relation to senior management's role at the Thinking School.

The study aimed to explore leaders' understanding of what is meant by a Thinking School. Another aim was to explore the roles of the principal and senior management in supporting development of a Thinking School; and compare the leadership practices at the case-study school with curriculum leadership practices recommended in the literature. The objectives of the study were to identify key curriculum leadership practices that could be used by the school leadership in my school and in other conventional schools to actively promote the teaching of thinking and to inform their policy decisions.

The conceptual framework guided this study, and from this framework the following key dimensions of leadership developed to direct the research: enhance organisational conditions for learning; lead, plan and organise the curriculum; supervise and improve teaching, learning and assessment; engage in evidence-based monitoring and evaluation; and disciplined dialogue and reflection, which was interwoven into the other four dimensions. The findings (roles) from my study support the literature found in chapter two, but a few noticeable and possibly new aspects (roles) did emerge.

6.3 Key Findings in Relation to The Main Research Question

Firstly, leaders believe it is possible to learn to think and learn more effectively and that this can be taught. Consequently, they see the Thinking School as a place that focuses on teaching learners to think creatively and critically. Senior management believes that the Thinking School prepares learners for the future, not just for jobs, but to bring innovation to the technological era. Senior management believes that the Thinking School concept also develops the child holistically. They also believe in value-driven education and that inculcation of the Habits of Mind should guide the beliefs, attitudes, and behaviours of staff and learners.

Secondly the findings confirm that the following curriculum leadership roles are played by leaders in this Thinking School: the promotion of the Thinking School philosophy and values; an encouragement of the use of cognitive tools in collaborative learning; sharing with staff their decision making about which thinking methodology should be implemented; and engagement with staff in training that focuses on cognitive education. Furthermore, the leaders used Thinking School strategies and tools in meetings. Curriculum leaders also played a prominent active role in planning how to consciously integrate the Thinking School values, tools and strategies into the formal CAPS. Furthermore, Leaders encouraged teachers to use Thinking Maps and Habits of Mind to promote flexible thinking in the classroom and the staffroom. In addition, they ensured monitoring of the teaching and assessment of thinking was done with the aid of a Thinking Schools committee (Drive Team). A curriculum leadership role that was obvious (noticeable) in this school was the active "hands-on" role of leaders in creating resources to make thinking visible and the making of resources was also to support the use of Thinking School tools and strategies.

The creation of resources also supported the use of Thinking School tools and strategies. Leadership also played a role in the unpacking and modelling of thinking tools in classrooms.

6.4 Strengths and Limitations of This Study

Literature Review: The related literature about Thinking Schools – and particularly curriculum leadership at such schools – is limited. This limitation influenced the depth to which the findings could be discussed.

Research Design: The strength of the research design was the depth of the case study, as its evidence is meaningful and is likely to augment the practices and policies at the school. However, the case study was limited by COVID-19, which deprived me of valuable time in completing my research.

Data Collection: The strength of the data collection was that in the interview and focus groups the participants gave in-depth answers. The research made the teachers aware of the roles enacted by leaders at the Thinking School. I had access to a comprehensive document created by the school to support its application for accreditation in 2017. (This document included assembly notes, government body minutes, examples of book checks, and a look at curriculum planning. I also gained access to a staff-appraisal summary consisting of feedback and comments; learner assessments; a 2015 report; minutes of Drive Team meetings; examples of exam papers; teacher reflections; comments on reports; and a staff quiz of 2015). This documentary evidence strengthened my analysis. All the participants agreed that this research was necessary because there is so little literature on leaders and their specific roles at Thinking Schools. The research had a teacher component, so information was gathered both from leadership as well as teacher perspectives. This meant that an objective opinion could be formed about the role those leaders play in the school. The problem statement is important and is likely to yield new information.

The limitations of the data collection were that the sample of participants was small and the research only involved three leaders in one school. A comparative case study would have added much more information and I would have found similarities and differences between the schools, which would have yielded new information. As such, I only focused on one primary school. The participants were very busy and some did not answer the questionnaire in full sentences. The participants may feel that they were not given enough time to respond sufficiently. I was also not able to probe aspects deeper or to ask more clearly focused questions, because of my inexperience in doing research.

The COVID-19 pandemic put my research on hold: much time was wasted as primary schools were closed for about four months. This made my research more challenging as I could not gain access to schools. Some institutions denied me access based on COVID-19 protocols, and schools just wanted to complete their curriculums. The COVID-19 constraints formed a limitation because they prevented me from being physically present at the school and experiencing it directly, which is what I would have wished to do in a case study.

I had to complete my data collection via online methods (digital questionnaires and Google Meet). This meant I had to collect all the participants' emails, and I also had to rely on them being free and available to do the online interview and focus-group meetings. I only had access to documents from 2017, which was evidence that the school submitted to Exeter University to gain accreditation.

Ethical Considerations: Strengths of the ethical considerations are that the researcher has kept the identity of participants private and the study site was not mentioned. The researcher also allowed participants to cross-check the transcripts developed from various data-collection methods. A limitation to the ethical considerations was that I (as the researcher) did not report the findings to participants; however, I plan to give them copies of the full thesis upon completion and to share findings with staff.

Data Analysis: The strength of the data analysis was the interpretation of the study findings with the aid of a constructed conceptual framework drawn from the work of Dempster (2009), Burden (2006; 2008) and Henderson and Gornik (2007). The conceptual framework provided a lens to investigate curriculum leadership roles within a conventional school. This framework also provided some impetus as to what to expect at a Thinking School. The conceptual framework enabled me, as the researcher, to unpack the influencing roles of leaders at a Thinking School and their concept of Thinking Schools. The conceptual framework afforded me a connection that has not really been mentioned in the limited literature.

My lack of research experience proved to be a limitation to analysing the data: I experienced difficulty in navigating through the research, especially in analysing and presenting the findings chapter. Another limitation was in building trustworthiness of the research data. I fell short: because of COVID-19 I was unable to get participants to check my data analysis. Thus the verification of my data could not be absolute.

Presenting Findings: The strength of the findings lay in my conceptual framework, as it highlighted important ways in which the practices at a Thinking School align with

recommendations in the general literature on curriculum leadership. Limitations to the findings are that few participants contributed to this study and it is based on a case, which ultimately meant that fewer roles were discussed or explored.

6.5 Recommendations

1. The findings of this research may contribute to improvement in practice at my own school and other schools.
2. The findings can be shared to improve curriculum leadership practices.
3. Future investigations may use a bigger sample and look at multiple case studies to secure more accurate answers and results or to deepen the research findings of this study.
4. Further research may choose to refine my conceptual framework through engagement with other schools and to find out if there is any other literature on curriculum leaders at Thinking Schools, as I have found very little information on the subject.
5. The researcher must explain the proposed study in more detail and let participants ask more questions, so that they can get a clear picture.
6. Participants should be given more time to answer questions and the researcher should remain open to changing a few ideas.
7. Participants should be given the opportunity to verify the data analysis and to build its trustworthiness.

6.6 Conclusion

The study aimed to explore leaders' understanding of what is meant by a Thinking School; explore the roles of the principal and senior management in supporting development of a Thinking School; and compare the leadership practices from the case-study school with curriculum leadership practices recommended in the literature. A review of the literature shows that many learners at South African primary schools experience difficulty with reasoning and making inferences. There is a need to identify what curriculum leaders do to enable teachers to develop thinking skills. The study has highlighted leaders' perceptions and their understanding of the Thinking School concept. It has also illustrated the various curriculum leadership roles enacted at a Thinking School. These findings may be of value as they have added some ideas and concepts to the limited literature available on the leadership aspect of the Thinking School domain. A positive achievement of this study may lie in its development of the conceptual framework, which may help to guide and deepen future studies on curriculum leadership at schools. The framework also highlights the clear connection between curriculum leadership literature and practices linked to developing Thinking Schools. These findings may guide improvement in curriculum leadership practices at both Thinking Schools and conventional schools.

Another achievement lies in how much I have learnt about doing research, gathering data and writing up a research report. This experience has stimulated my interest in these activities and opened up areas for further exploration.

The findings of this study show that leaders' understanding and perception of a Thinking School is aligned with the notion of a critical education. The findings confirm that the following curriculum leadership roles are adopted by leaders at this Thinking School: the promotion of Thinking School philosophy and values; encouragement of the use of cognitive tools in collaborative learning; sharing with staff their decision-making about which thinking methodology should be implemented; and engagement of staff in training that focuses on cognitive education. Furthermore, the leaders modelled Thinking School strategies and tools in meetings with staff and students. Curriculum leaders also played a prominent and active role in planning how to consciously integrate Thinking School values, tools and strategies into the formal CAPS. Leaders encouraged teachers to use Thinking Maps and Habits of Mind to promote flexible thinking in the classroom and the staffroom. They also ensured monitoring of the teaching and assessment of thinking through a Thinking Schools committee (Drive Team). A curriculum leadership role that was obvious (noticeable) in this school was the active "hands-on" role of leaders in creating resources to make thinking visible and the making of resources was also to support the use of Thinking School tools and strategies. Their creation of resources also supports the use of Thinking School tools and strategies.

The findings of this study can help to inform leaders at both Thinking Schools and conventional schools about ways to take on curriculum leadership that can help to develop critical and creative thinking.

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Appendices

UNIVERSITY of the WESTERN CAPE

60 YEARS of hope, action & knowledge

Appendix A

17 June 2020

Mr CW van Wyk
Faculty of Education

Ethics Reference Number:	HS20/3/23
Project Title:	Curriculum leadership practices of senior management in developing a 'Thinking School': A case study of a Western Cape primary school
Approval Period:	17 June 2020 – 17 June 2023

I hereby certify that the Humanities and Social Science Research Ethics Committee of the University of the Western Cape approved the methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

Please remember to submit a progress report by 30 November each year for the duration of the project.

The permission to conduct the study must be submitted to HSSREC for record keeping purposes.

The Committee must be informed of any serious adverse event and/or termination of the study.
Ms Patricia Josias
Research Ethics Committee Officer

University of the Western Cape **Bellville 7535**
Tel: +27 21 959 4111Email: research-ethics@uwc.ac.za
NHREC Registration Number: HSSREC-130416-049

Director: Research Development
University of the Western Cape
Private Bag X 17
Republic of South Africa
Audrey.wyngaard@westerncape.gov.za
tel: +27 021 467 9272
Fax: 0865902282
Private Bag x9114, Cape Town, 8000
wced.wcape.gov.za

REFERENCE: 20200707-6817
ENQUIRIES: Dr A T Wyngaard

Appendix B

Mr Chadley Van Wyk
18 Yellowwood Avenue
New Orleans
Paarl
7646

Dear Mr Chadley Van Wyk

RESEARCH PROPOSAL: WHAT CURRICULUM LEADERSHIP PRACTICES BY SENIOR MANAGEMENT SUPPORT THE DEVELOPMENT OF A SELECTED PRIMARY SCHOOL AS A THINKING SCHOOL?

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **14 July 2020 till 30 September 2020**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr A.T Wyngaard at the contact numbers above quoting the reference number?
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

    The Director: Research Services
    Western Cape Education Department
    Private Bag X9114
    CAPE TOWN
    8000

We wish you success in your research.

Kind regards.
Signed: Dr Audrey T Wyngaard
Directorate: Research
DATE: 10 July 2020

Appendix C

UNIVERSITY of the WESTERN CAPE

UNIVERSITY OF THE WESTERN CAPE

FACULTY OF EDUCATION

Department of Educational Studies

Private Bag X17 Bellville 7535 Republic of South Africa
Phone: (021) 959 2963 Fax: (021) 959 3943
Research Ethics Committee: Tel: +27 21 959 4111;
Email: research-ethics@uwc.ac.za

Information Sheet

I am Chadley Van Wyk (3264020) a student at The University of the Western Cape, currently doing my Masters in Educational studies. The purpose of my research is to explore the roles that the principal and SMT members play in developing the school as a Thinking School. The Title of my research is: **Curriculum leadership practices of senior management in developing a 'Thinking School': A case study of a Western Cape primary school**

I would like to invite you to take part in this study. Your participation is voluntary and you can withdraw from participation at any point without having to provide a reason.

School leaders will be required to answer a questionnaire and participate in an individual interview. Certain teachers will be required to participate in a group interview. The questionnaire will take between 15 to 20 minutes to complete. Individual interviews or group interviews will last between 30 minutes to an hour. All interviews will be recorded and transcribed to participants to cross-check to accuracy or to make any changes.

All data collected will be kept under strict confidentiality and it will be kept in a safe place. Only the researcher and supervisors will have access to the information and personal information about the participant. The information will only be used for the purpose of identification in this study. Although participants will be asked to write their name/surname, post level and years of experience on the questionnaire, no names of individuals or schools will be published in the research reports or any academic articles.

The data will be disposed of by shredding the paper and the digital data may be destroyed by deleting, overwriting information or destroying the physical data (e.g. CD-ROMS and DVD's). However I will arrange access to this data for my supervisors for further comparative research. Participants have the right to access information about them collected as part of the study. There are minimal risks associated with this research; the benefits will be a general contribution to knowledge related to curriculum leadership in Thinking Schools.

All participants will receive a copy of an information sheet and consent form that are translated both into English and Afrikaans. They will be required to sign a consent form to indicate that they are aware of the nature of the research, and what they would be consenting to. A copy information sheet and consent form will be retained by the research participant. Signed consent forms will be stored securely by the researcher.

If there are any queries participants can contact the researcher (C. Van Wyk) by phone or by email (081 046 3779/ 3264020@myuwc.ac.za) or the supervisors (Dr. K. Collett) by emailing or phoning them kcollett@uwc.ac.za / 021-9593894, (Prof. L. Green) lgreen@mweb.co.za / 0825628367.

HSSREC, Research Development, Tel: 021 959 4111 and email: research-ethics@uwc.ac.za

Appendix D

UNIVERSITY of the WESTERN CAPE

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FACULTY OF EDUCATION

Department of Educational Studies

Private Bag X17 Bellville 7535 Republic of South Africa
Phone: (021) 959 2963 Fax: (021) 959 3943

Consent Form

Title: Curriculum leadership practices of senior management in developing a 'Thinking School': A case study of a Western Cape primary school

As a research participant in this study I give consent to participate in this study. I have received a copy of the information sheet on this study and attest to the following:

I have read, or have had read to me in my first language, and I understand the Participant Information Sheet.	Yes □	No □
I have been given sufficient time to consider whether or not to participate in this study.	Yes □	No □
I am satisfied with the answers I have been given regarding the study and I have a copy of this consent form and information sheet.	Yes □	No □
I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time.	Yes □	No □
I consent to the research staff collecting and processing my information.	Yes □	No □
I understand that my participation in this study is confidential and that no material, which could identify me personally, will be used in any reports on this study.	Yes □	No □
I give consent for all interviews (including online interviews if necessary, under lockdown conditions) to be audio recorded.	Yes □	No □
I give consent to undertake a survey questionnaire.	Yes □	No □
I give consent to participate in an individual interview.	Yes □	No □
I give consent to participate in a focus group interview.	Yes □	No □

Please be advised that although the researcher will take every precaution to maintain confidentiality of the data, the nature of focus groups prevents the researchers from guaranteeing confidentiality. The researcher would like to remind participants to respect the privacy of your fellow participants and not repeat what is said in the focus group to others, thus I agree to maintain the confidentiality of the information discussed by all participants and researcher during the focus group session.	Yes □	No □
I know who to contact if I have any questions about the study in general.	Yes □	No □
I understand my responsibilities as a study participant.	Yes □	No □
I wish to receive a summary of the results from the study.	Yes □	No □
I have been given an opportunity to ask questions.	Yes □	No □

Declaration by participant:
I hereby consent to take part in this study.

Participant's name: _____

Signature: _____ Date: _____

Witness name: _____

Signature: _____ Date: _____

Declaration of researcher:

I have given a verbal explanation of the research project to the particip
participant's questions about it.

I believe that the participant understands the study and has given informed consent to participate.

Researcher's name: _____

Signature: _____ Date: _____

HSSREC, Research Development, Tel: 021 959 4111 and email: research-ethics@uwc.ac.za

Appendix E

UNIVERSITY of the WESTERN CAPE

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FACULTY OF EDUCATION

Department of Educational Studies

Private Bag X17 Bellville 7535 Republic of South Africa
Phone: (021) 959 2963 Fax: (021) 959 3943

Participant Questionnaire (school leaders)

Curriculum Leadership in Thinking Schools

Participate Name and Surname…….

Post Level……Years of Experience in current post/position…….

Please answer questions fully. Thank You!

1. **When did your school decide to become a Thinking School?**

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2. **Are you officially registered/accredited as a Thinking School?**

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3. **How would you define a Thinking School?**

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4. **What would you identify as the benefits of a school becoming a Thinking School?**

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5. What curriculum leadership practices do you use to support the school in becoming a Thinking School?

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6. What curriculum leadership practices do you think are unique to developing a Thinking School?

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7. Do any of your curriculum leadership practices involve the parents or the school community? Could you describe how this is done?

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8. What do you see as key activities that you perform to promote the development of your school as a Thinking School?

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9. Do you experience any curriculum leadership challenges as a Thinking School?

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10 How are you addressing them?

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Appendix F

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FACULTY OF EDUCATION

Department of Educational Studies

Private Bag X17 Bellville 7535 Republic of South Africa
Phone: (021) 959 2963 Fax: (021) 959 3943

Participant Questionnaire (Teacher)

Curriculum Leadership in Thinking Schools

Participate Name and Surname…….

Post Level……Years of Experience in current post/position……..

Please answer questions fully. Thank You!

1. **When did your school decide to become a Thinking School?**

   ……
   ……

2. **Are you officially registered/accredited as a Thinking School?**

   ……

3. **How would you define a Thinking School?**

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4. **What would you identify as the benefits of a school becoming a Thinking School?**

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5. What curriculum leadership practices by the SMT support the development of your classroom as a Thinking classroom?

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6. What curriculum leadership practices by the Cognitive Co-ordinator support the development of your classroom as a Thinking classroom?

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7. What curriculum leadership practices do you think are unique to developing a Thinking School?

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8. What do you see as key activities that leadership supports you/your school in to promote the development of your school as a Thinking School?

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9. Are you aware of any curriculum leadership challenges particular to developing as a Thinking School?

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10. How are they being addressed at your school?

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HSSREC, Research Development, Tel: 021 959 4111 and email: research-ethics@uwc.ac.za

Appendix G

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FACULTY OF EDUCATION

Department of Educational Studies

Private Bag X17 Bellville 7535 Republic of South Africa
Phone: (021) 959 2963 Fax: (021) 959 3943

Chadley Van Wyk (3264020): Curriculum Leadership in Thinking Schools

Individual Interview Questions

1. **Are there any noticeable changes in learner thinking or performances?**
2. **What do senior management understand a Thinking School to be?**
3. **In your role as principal/deputy/Thinking Schools co-ordinator/HOD what do you do differently in your leadership role since it was decided to work towards developing a Thinking School?**
4. **What curriculum leadership practices are identified as key in sustaining and promoting development as a Thinking School**

HSSREC, Research Development, Tel: 021 959 4111 and email: research-ethics@uwc.ac.za

Appendix H

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Department of Educational Studies

Private Bag X17 Bellville 7535 Republic of South Africa
Phone: (021) 959 2963 Fax: (021) 959 3943

Chadley Van Wyk (3264020): Curriculum Leadership in Thinking Schools

Focus group Interview Questions (teachers)

1. **What curriculum leadership practices are identified as key in sustaining and promoting the development of Thinking Schools?**
2. **What do you as a teacher understand a Thinking School to be?**
3. **In your role as a teacher, what do you do differently since it was decided to work towards developing a Thinking School?**
4. **What do you see as key activities that you perform to promote development as a Thinking School?**
5. **Are there any unique practices used by your school and the relevant role players that assist your development as a Thinking School?**
6. **Do you experience any conflicts between different aspects of your role in the school?**

HSSREC, Research Development, Tel: 021 959 4111 and email: research-ethics@uwc.ac.za

Appendix I

UNIVERSITY of the WESTERN CAPE

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FACULTY OF EDUCATION

Department of Educational Studies

Private Bag X17 Bellville 7535 Republic of South Africa
Phone: (021) 959 2963 Fax: (021) 959 3943

Dear Mrs Wyngaard

Re: Request to conduct research in WCED schools

I am Chadley Van Wyk a Masters student (3264020) at the University of the Western Cape. My research topic is: Curriculum leadership practices of senior management in developing 'Thinking Schools': A comparative case study of two Western Cape primary schools.

I would like to request your permission to do my research at South African College Junior School and Bellville Primary School in your jurisdiction.

The purpose of the study is to find out what curriculum leadership roles do the principal and SMT members play in developing the school as a Thinking School. What curriculum leadership practices are identified as key in sustaining and promoting the development of Thinking Schools? What are the similarities and differences between curriculum leadership practices in the case study schools? How do school contexts influence curriculum leadership practices to support the development of Thinking Schools? The aim is to establish how Thinking Schools operate. My strategic objective in undertaking this study is to identify key curriculum leadership practices that could be used by the school leadership in my school and in other schools to actively promote the teaching of thinking and to inform policy decisions.

The study will involve conducting one on one interviews and a focus group interview consisting of the relevant role players in the school and these role players will then also answer the questionnaire provided.

For more information feel free to contact either myself or my supervisor on the contact details below. Attached is the completed WCED research form.

Chadley Van Wyk: 0810463779 (3264020@myuwc.co.za)

Dr. Karen Collett: 021 9592246 (kcollett@uwc.ac.za)

Prof Lena Green: 021-9592246 (lgreen@mweb.co.za)

I trust that my request will be considered favourably.

Yours sincerely

HSSREC, Research Development, Tel: 021 959 4111 and email: research-ethics@uwc.ac.za

Appendix J

UNIVERSITY of the WESTERN CAPE

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FACULTY OF EDUCATION

Department of Educational Studies

Private Bag X17 Bellville 7535 Republic of South Africa
Phone: (021) 959 2963 Fax: (021) 959 3943

11/08/2020

Chadley Van Wyk

18 Yellowwood Avenue

New Orleans

Paarl

7646

Tel: 0810463779

Dear X **and School Governing Body members**

RE: **Request for permission to conduct research in your school**

I would like to seek consent from you and your School Governing Body to do research in your school. My name is Chadley Van Wyk, and I am a Master's student in the Educational Studies Department (3264020) at the University of the Western Cape (UWC) in Bellville. The title of my research study is: Curriculum leadership practices of senior management in developing a 'Thinking School': A case study of a Western Cape primary school. My research aims to explore and compare the roles of the principal and senior management in supporting the development of a Thinking School. My strategic objective in undertaking this study is to identify key curriculum leadership practices that school leaders can engage in to actively promote the teaching of thinking.

My research study has been approved by the UWC Senate Research Committee (Appendix A) and the Western Cape Education Department. (Appendix B). I now seek approval to do my research in your school. I am aware that participation in this research is voluntary and that I would have to obtain signed consent from you and any staff members who would be willing to participate in this study.

I have appended a copy of my research proposal which includes the consent form (Appendix D), to be used in the research process, as well as an information sheet (Appendix C) which provides information on my research aims and the research process. Data collection would involve eight staff members including yourself in completing a short survey questionnaire, as well as a follow up individual or group interview of approximately half an hour.

As a researcher, teacher and visitor to school sites I will adhere to the strict protocols setup by the Department of Basic Education regarding the COVID-19 pandemic. I will ensure the wearing of my face mask, sanitising regularly and keeping to social distancing protocols when on school and public property. In order to minimise the risk of exposure I could set up a virtual meeting via Google hangout or Zoom to complete individual interviews. I will always be open about my state of health. To date I have not contracted the virus nor have I been in contact with any person that may have the virus. As for the questionnaires, it is scientifically proven that the virus dies after three days when on paper, so I will keep each questionnaire in an A4 envelope for the full three days prior to handing them out. I will use gloves and sanitise my hands before I hand out questionnaires.

I would like to be able to make contact with staff members via a visit to your school or via a Google hangout meeting to explain my study and to answer any questions the staff may have. This would afford me the opportunity of introducing myself to the staff and engaging staff in the signing of consent to be involved in this research.

Upon completion of the study, I undertake to provide the Department of Basic Education and the schools with a bound copy of the full research report. If you require any further information, please do not hesitate to contact me on 0810463779 or via email at chadleyvanwyk55@gmail.com. If you have any concerns regarding this study you can make contact with my supervisors Dr. Karen Collett: 021 9592246 (kcollett@uwc.ac.za) Prof. Lena Green: 021-9592246 (lgreen@mweb.co.za) or the UWC HSSREC, Research Development, Tel: 021 959 4111 and email: research-ethics@uwc.ac.za.

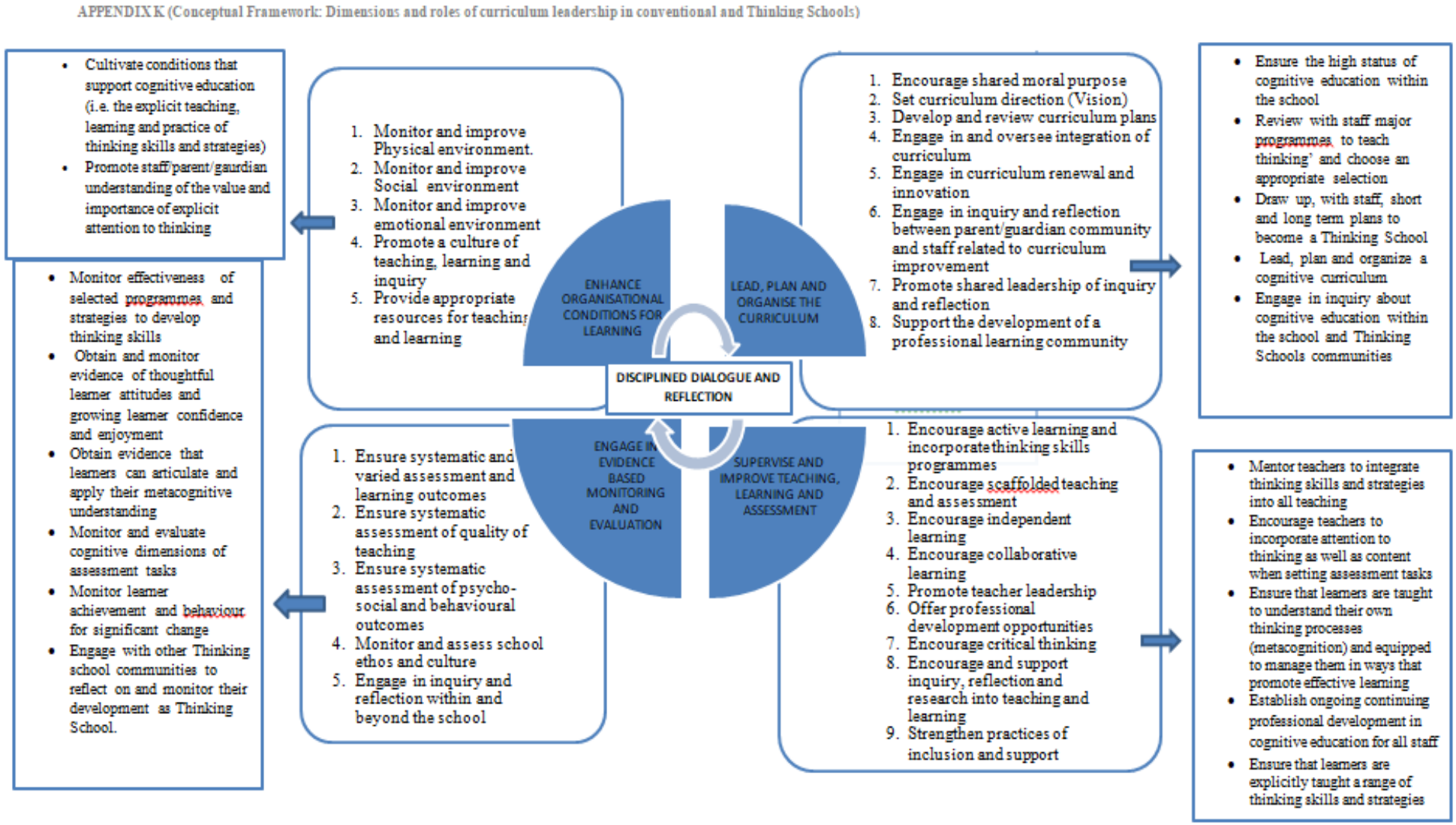
Thank you for your time and consideration in this matter.

Yours sincerely,

Chadley Van Wyk

HSSREC, Research Development, Tel: 021 959 4111 and email: research-ethics@uwc.ac.za

Appendix K


APPENDIX K (Conceptual Framework: Dimensions and roles of curriculum leadership in conventional and Thinking Schools)
Cultivate conditions that support cognitive education (i.e. the explicit teaching, learning and practice of thinking skills and strategies)
Promote staff/parent/gaurdian understanding of the value and importance of explicit attention to thinking
Monitor effectiveness of selected programmes and strategies to develop thinking skills
Obtain and monitor evidence of thoughtful learner attitudes and growing learner confidence and enjoyment
Obtain evidence that learners can articulate and apply their metacognitive understanding
Monitor and evaluate cognitive dimensions of assessment tasks
Monitor learner achievement and behaviour for significant change
Engage with other Thinking school communities to reflect on and monitor their development as Thinking School.
1. Monitor and improve Physical environment.
2. Monitor and improve Social environment
3. Monitor and improve emotional environment
4. Promote a culture of teaching, learning and inquiry
5. Provide appropriate resources for teachin and learning
ENHANCE ORGANISATIONAL CONDITIONS FOR LEARNING
LEAD, PLAN AND ORGANISE THE CURRICULUM
DISCIPLINED DIALOGUE AND REFLECTION
ENGAGE IN EVIDENCE BASED MONITORING AND EVALUATION
SUPERVISE AND IMPROVE TEACHING, LEARNING AND ASSESSMENT
1. Ensure systematic and varied assessment and learning outcomes
2. Ensure systematic assessment of quality of teaching
3. Ensure systematic assessment of psycho-social and behavioural outcomes
4. Monitor and assess school ethos and culture
5. Engage in inquiry and reflection within and beyond the school
1. Encourage shared moral purpose
2. Set curriculum direction (Vision)
3. Develop and review curriculum plans
4. Engage in and oversee integration of curriculum
5. Engage in curriculum renewal and innovation
6. Engage in inquiry and reflection between parent/guardian community and staff related to curriculum improvement
7. Promote shared leadership of inquiry and reflection
8. Support the development of a professional learning community
1. Encourage active learning and incorporate thinking skills programmes
2. Encourage scaffolded teaching and assessment
3. Encourage independent learning
4. Encourage collaborative learning
5. Promote teacher leadership
6. Offer professional development opportunities
7. Encourage critical thinking
8. Encourage and support inquiry, reflection and research into teaching and learning
9. Strengthen practices of inclusion and support
Ensure the high status of cognitive education within the school
Review with staff major programmes to teach thinking' and choose an appropriate selection
Draw up, with staff, short and long term plans to become a Thinking School
Lead, plan and organize a cognitive curriculum
Engage in inquiry about cognitive education within the school and Thinking Schools communities
Mentor teachers to integrate thinking skills and strategies into all teaching
Encourage teachers to incorporate attention to thinking as well as content when setting assessment tasks
Ensure that learners are taught to understand their own thinking processes (metacognition) and equipped to manage them in ways that promote effective learning
Establish ongoing continuing professional development in cognitive education for all staff
Ensure that learners are explicitly taught a range of thinking skills and strategies

Appendix L

UNIVERSITY OF THE WESTERN CAPE

ETHICAL CLEARANCE APPLICATION FORM (HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE)

Research Ethics Committee: Tel: +27 21 959 4111; Email: research-ethics@uwc.ac.za

PLEASE NOTE THAT THE FORM MUST BE COMPLETED IN TYPED SCRIPT. HANDWRITTEN APPLICATIONS WILL NOT BE CONSIDERED

SECTION 1: PERSONAL DETAILS

1.1 Surname of Applicant:
1.2 First names of applicant: : Chadley William Van Wyk
1.3 Title (Ms/ Mr/ Mrs/ Dr/ Professor etc) : Mr

1.4 Applicant's gender : Male
1.5 Applicant's Race (African/ Coloured/Indian/White/Other) : Coloured
1.6 Student Number (where applicable) : 3264020
Staff Number (where applicable) : -
1.7 School : New Orleans Secondary School
1.8 College : University of The Western Cape
1.9 Campus : Bellville
1.10 Existing Qualifications : Bachelor of Arts; Postgraduate Certificate in Education, B.Ed Honours (Leadership and Management)

1.11 Proposed Qualification for Project : Master's degree in Educational Studies
(In the case of research for degree purposes)

2. Contact Details
Tel. No. : 0218620900
Cell. No. : 0810463779
e-mail : chadleyvanwyk55@gmail.com
Postal address (in the case of Students and external applicants) : 18 Yellowood Avenue New Orleans Paarl 7646

3. SUPERVISOR/ PROJECT LEADER DETAILS

NAME	TELEPHONE NO.	EMAIL	SCHOOL / INSTITUTION	QUALIFICATIONS
3.1 Karen Suzette Collett	(081) 271 3638	kcollett@uwc.ac.za	UWC	PhD
3.2 Lena Green	0825628367	lgreen@mweb.co.za	UWC	PhD
3.3				

SECTION 2: PROJECT DESCRIPTION

Please do *not* provide your full research proposal here: what is required is a short project description of not more than two pages that gives, under the following headings, a brief overview spelling out the background to the study, the key questions to be addressed, the participants (or subjects) and research site, including a full description of the sample, and the research approach/ methods

2.1 Project title

Curriculum leadership practices of senior management in developing a 'Thinking School': A case study of a Western Cape primary school

2.2 Location of the study (where will the study be conducted)
In the Western Cape

2.3 Objectives of and need for the study

Objectives: My **strategic objective** in undertaking this study is to identify key curriculum practices that could be used by the school leadership in my school and in other conventional schools to actively promote the teaching of thinking and to inform their policy decisions.

With this research focus I aim to explore leaders' understanding of what is meant by a Thinking School; explore the roles of the principal and senior management in supporting development of a Thinking School; and compare the leadership practices from the case-study school with curriculum leadership practices recommended in the literature.

Theoretical Approach: Conceptual Framework consisting of Curriculum Leadership and Thinking Schools Literature.

Why I believe this study is needed: There is a need for this study, because learners lack the ability to think critically and there is a need to identify key curriculum leadership practices that could be used by the school leadership in my school and in other schools to actively promote the teaching of thinking.

- **2.4 Questions to be answered in the research**

(Set out the critical questions which you intend to answer by undertaking this research).

Main Question: What curriculum leadership practices by senior management support the development of a selected primary school as Thinking School?

Subsidiary Research Questions

1. What do senior management understand a Thinking School to be?

2. What curriculum leadership roles do the principal and senior management members play in developing the school as a Thinking School?

2.5 Research approach/ methods

(This section should explain how you will go about answering the critical questions which you have identified under 2.4 above. Set out the approach within which you will work, and indicate in step-by-step point form the methods you will use in this research in order to answer the critical questions – including sample description, sampling strategies, data collection methods, and data reduction strategies.

For a study that involves surveys, please append a provisional copy of the questionnaire to be used. The questionnaire should show how informed consent is to be achieved, as well as indicate to respondents that they may withdraw their participation at any time, should they so wish.

Qualitative Research: I will be conducting a qualitative research approach as I seek personal views and opinions. This will be collected through a questionnaire setup with ten questions. These ten questions will contribute to answering the main and subsidiary questions. I will also be conducting semi structured interviews consisting of four questions and Focus group interviews will be held with seven questions.

A Case Study will be used

Data Gathering Technique: Questionnaire, Semi-structured Interviews, Focus group and documentary analysis.
Target Group: Principal, deputy principals, Departmental head (HOD) and Cognitive Facilitator

Sampling: Purposeful sampling of selected primary schools as Thinking Schools
Data Analysis: The whole idea is to extract meaningful and representational information in the content assimilated. By making summaries of the data I can make links between key points. Usually step one would be to organize the data (familiarize and structure data). Step two would be to identify a framework, which would be guided by the research questions. Step three would be to use the descriptive analysis to describe the findings found. Lastly the second order analysis would assist me in identifying recurrent themes and patterns and to build on a sequence of events.

2.6 Proposed work plan

Set out your intended plan of work for the research, indicating important target dates necessary to meet your proposed deadline.

STEPS	DATES
1. Get Consent From School and teachers 2. Hand out Questionnaires 3. Collecting Questionnaires 4. Semi Structured Interviews with participants and get feedback on study and questions Then Focus group Questions. 5. Analyse Data 6. Construct Research Report 7. Present Findings	1. July/August 2020 2. August 2020 3. August 2020 4. August-September 2020 5. September-Dec 2020 6. January (2020-2021 ongoing) 7. February-June 2021

SECTION 3: ETHICAL ISSUES

The UWC Research Ethics Policy applies to all members of staff, graduate and undergraduate students who are involved in research on or off the campuses of University of the Western Cape. In addition, any person not affiliated with UWC who wishes to conduct research with UWC students and / or staff is bound by the same ethics framework. Each member of the University community is responsible for implementing this Policy in relation to scholarly work with which she or he is associated and to avoid any activity which might be considered to be in violation of this Policy.

All students and members of staff must familiarise themselves with, AND sign an undertaking to comply with, the University's "Code of Conduct for Research".

QUESTION 3.1

Does your study cover research involving:	YES	NO
Children		√
Persons who are intellectually or mentally impaired		√
Persons who have experienced traumatic or stressful life circumstances		√
Persons who are HIV positive		√
Persons highly dependent on medical care		√
Persons in dependent or unequal relationships		√
Persons in captivity		√
Persons living in particularly vulnerable life circumstances		√

QUESTION 3.2

Will data collection involve any of the following:	**YES**	**NO**
Access to confidential information without prior consent of participants		√
Participants being required to commit an act which might diminish self-respect or cause them to experience shame, embarrassment, or regret		√
Participants being exposed to questions which may be experienced as stressful or upsetting, or to procedures which may have unpleasant or harmful side effects		√
The use of stimuli, tasks or procedures which may be experienced as stressful, noxious, or unpleasant		√
Any form of deception		√

QUESTION 3.3

Will any of the following instruments be used for purposes of data collection:	**YES**	**NO**
Questionnaire	√	
Survey schedule		√
Interview schedule	√	
Psychometric test		√
Other/ equivalent assessment instrument		√

QUESTION 3.4

Will the autonomy of participants be protected through the use of an informed consent form, which specifies (in language that respondents will understand):	**YES**	**NO**
The nature and purpose/s of the research	√	
The identity and institutional association of the researcher and supervisor/project leader and their contact details	√	
The fact that participation is voluntary	√	
That responses will be treated in a confidential manner	√	
Any limits on confidentiality which may apply	√	
That anonymity will be ensured where appropriate (e.g. coded/ disguised names of participants/ respondents/ institutions)	√	
The fact that participants are free to withdraw from the research at any time without any negative or undesirable consequences to themselves	√	

The nature and limits of any benefits participants may receive as a result of their participation in the research	√	
Is a copy of the informed consent form attached?	√	

QUESTION 3.5

Specify what efforts have been made or will be made to obtain informed permission for the research from appropriate authorities and gate-keepers (including caretakers or legal guardians in the case of minor children)?

- Ethical clearance will first be obtained from the UWC Senate Humanities and Social Sciences Research Ethics Committee. I will then proceed to obtain research permission from the Western Cape Education Department to do the research in the selected schools. I will then approach the selected schools' principals and School Governing Bodies to gain permission to conduct this research. Thereafter I will obtain individual consent from each of the research participants to conduct the research. "Much social research necessitates obtaining the consent and cooperation of subjects who are to assist in investigations and of significant others in the institutions or organizations providing the research facilities. While some cultures may not be stringent about informed consent, in others there are strict protocols for informed consent" (Cohen et al., 2007, p.52). An information sheet translated into the language participants are familiar with will be discussed with each of the participants and a consent form will be presented to them to sign (see appendix C and D). In addition I will also provide them with my clearance form from both UWC and WCED to show that I have followed due procedure in obtaining permission to do this study. I hope this will make them feel more at ease to participate in the research and they will feel that a basis for mutual trust has been established. Participation in the research will be done solely on a voluntary basis and participants can withdraw from the research study at any time without feeling that they will be harmed or discriminated against in any way.

QUESTION 3.6

STORAGE AND DISPOSAL OF RESEARCH DATA:
Please note that the research data should be kept for a minimum period of at least five years in a secure location by arrangement with your supervisor.

How will the research data be secured and stored? When and how (if at all) will data be disposed of?

- All electronic data will be stored on an external hard drive with an encrypted pin in a safe area. In addition a copy will be placed in Google drive folder which only the researcher and his supervisors have access to. Placing this data up on the UWC research data storage sites will also be investigated.
- Data will be disposed of by deleting the digital work and shredding hard copies of paper after the thesis has been examined and marked.
- Data will be securely stored for at least five years. After this time period it will be disposed of by deleting digital files for all folders and the computer. In addition the physical copies will be shredded.

QUESTION 3.7

In the subsequent dissemination of your research findings – in the form of the finished thesis, oral presentations, publication etc. – how will anonymity/ confidentiality be protected?
- By not mentioning anyone in the study I am keeping them anonymous. This means that although the researcher and supervisors know who has provided the information or are able to identify participants from the information given, they will in no way make the connection known publicly; the boundaries surrounding the shared secret will be protected. The essence of the matter is the extent to which investigators keep faith with those who have helped them. Participants may be referred to as "P1-S1" (PARTICIPANT 1-SCHOOL 1)

QUESTION 3.8

Is this research supported by funding that is likely to inform or impact in any way on the design, outcome and dissemination of the research?	**YES**	**NO** √

QUESTION 3.9

Has any organization/company participating in the research or funding the project, imposed any conditions to the research? YES/NO
No

If yes, please indicate what the conditions are.

SECTION 4: FORMALISATION OF THE APPLICATION

APPLICANT

I have familiarised myself with the University's Code of Conduct for Research and undertake to comply with it. The information supplied above is correct to the best of my knowledge.
NB: PLEASE ENSURE THAT THE ATTACHED CHECK SHEET IS COMPLETED
DATE: …06/04/2020…… SIGNATURE OF APPLICANT:…… ……..

SUPERVISOR/PROJECT LEADER/DISCIPLINE ACADEMIC LEADER

NB: PLEASE ENSURE THAT THE APPLICANT HAS COMPLETED THE ATTACHED CHECK SHEET AND THAT THE FORM IS FORWARDED TO YOUR SCHOOL RESEARCH COMMITTEE FOR FURTHER ATTENTION
DATE: 06/04/2020 **SIGNATURE OF SUPERVISOR/ PROJECT LEADER/DISCIPLINE LEADER** _ K Collett (Signed electronically)

RECOMMENDATION OF FACULTY RESEARCH ETHICS COMMITTEE/HIGHER DEGREES COMMITTEE

The application is (please tick):

	Recommended and referred to the Human and Social Sciences Research Ethics Committee for further consideration
	Not Approved, referred back for revision and resubmission
	Other: please specify:

NAME OF CHAIRPERSON:

_____SIGNATURE:_____

DATE .....

RECOMMENDATION OF UNIVERSITY RESEARCH ETHICS COMMITTEE (HUMAN AND SOCIAL SCIENCES)
NAME OF CHAIRPERSON:_____SIGNATURE_____ **DATE.....**

CHECK SHEET FOR APPLICATION

PLEASE TICK

1. Form has been fully completed and all questions have been answered	√
2. Questionnaire attached (where applicable)	√
3. Informed consent document attached (where applicable)	√

4. Approval from relevant authorities obtained (and attached) where research involves the utilisation of space, data and/or facilities at other institutions/organisations	√
5. Signature of Supervisor / project leader	√
6. Application forwarded to Faculty Research Committee for recommendation and transmission to the Research Office	√

Appendix M

Directorate: Research

Audrey.wyngaard2@pgwc.gov.za

tel: +27 021 467 9272

Fax: 0865902282

Private Bag x9114, Cape Town, 8000

wced.wcape.gov.za

APPLICATION TO CONDUCT RESEARCH IN PUBLIC SCHOOLS WITHIN THE WESTERN CAPE

Note

- This application has been designed with students in mind.
- If a question does not apply to you indicate with a N/A
- The information is stored in our database to keep track of all studies that have been conducted on the WCED. It is therefore important to provide as much information as is possible

1 APPLICANT INFORMATION

1.1 Personal Details		
1.1.1	Title (Prof / Dr / Mr/ Mrs/Ms)	**Mr.**
1.1.2	Surname	**Van Wyk**
1.1.3	Name (s)	**Chadley William**
1.1.4	Student Number (If applicable)	**3264020**

1.2 Contact Details		
1.2.1	Postal Address	18 Yellowwood Avenue New Orleans Paarl 7646
1.2.2	Telephone number	**0218621383**
1.2.3	Cell number	**0810463779**
1.2.4	Fax number	
1.2.5	E-mail Address	**chadleyvanwyk55@gmail.com**
1.2.6	Year of registration	**2018**

1.2.7	Year of completion	**2020**

2 DETAILS OF THE STUDY

2.1 Details of the degree or project		
2.1.1	Name of the institution	**University of the Western Cape**
2.1.2	Degree / Qualification registered for	**Master's Degree**
2.1.3	Faculty and Discipline / Area of study	**Educational Studies**
2.1.4	Name of Supervisor / Promoter / Project leader	**Dr. Karen Collett/ Prof. L. Green**
2.1.5	Telephone number of Supervisor / Promoter	**(081) 271 3638/ 021-9592246**
2.1.6	E-mail address of Supervisor / Promoter	**kcollett@uwc.ac.za/ lgreen@mweb.co.za**

2.1.7	**Title of the study**
Curriculum leadership practices of senior management in developing a 'Thinking School': A case study of a Western Cape primary school	

2.1.8	**What is the research question, aim and objectives of the study**

Research Question: What curriculum leadership practices by senior management support the development of a selected primary school as Thinking School?

Objectives: The research aim of this study is to explore the role of senior management team and other leadership role players in the development of a primary school in the Western Cape as Thinking Schools.
With this research focus I aim to:
1. Explore leaders' understanding of what is meant by a Thinking School.
2. Explore the roles of the principal and senior management to support the development of a Thinking School.
3. Compare the leadership practices from the case study schools with each other and with leadership practices recommended in the literature.
My key **strategic objective** in undertaking this study is to identify key curriculum leadership practices that could be used by the school leadership in my school and in other schools to actively promote the teaching of thinking.

2.1.9	**Name (s) of education institutions (schools)**
(Name of school omitted)	

2.1.10	**Research period in education institutions (Schools)**	
2.1.11	Start date	01/07/2020
2.1.12	End date	30/09/2020

Appendix N

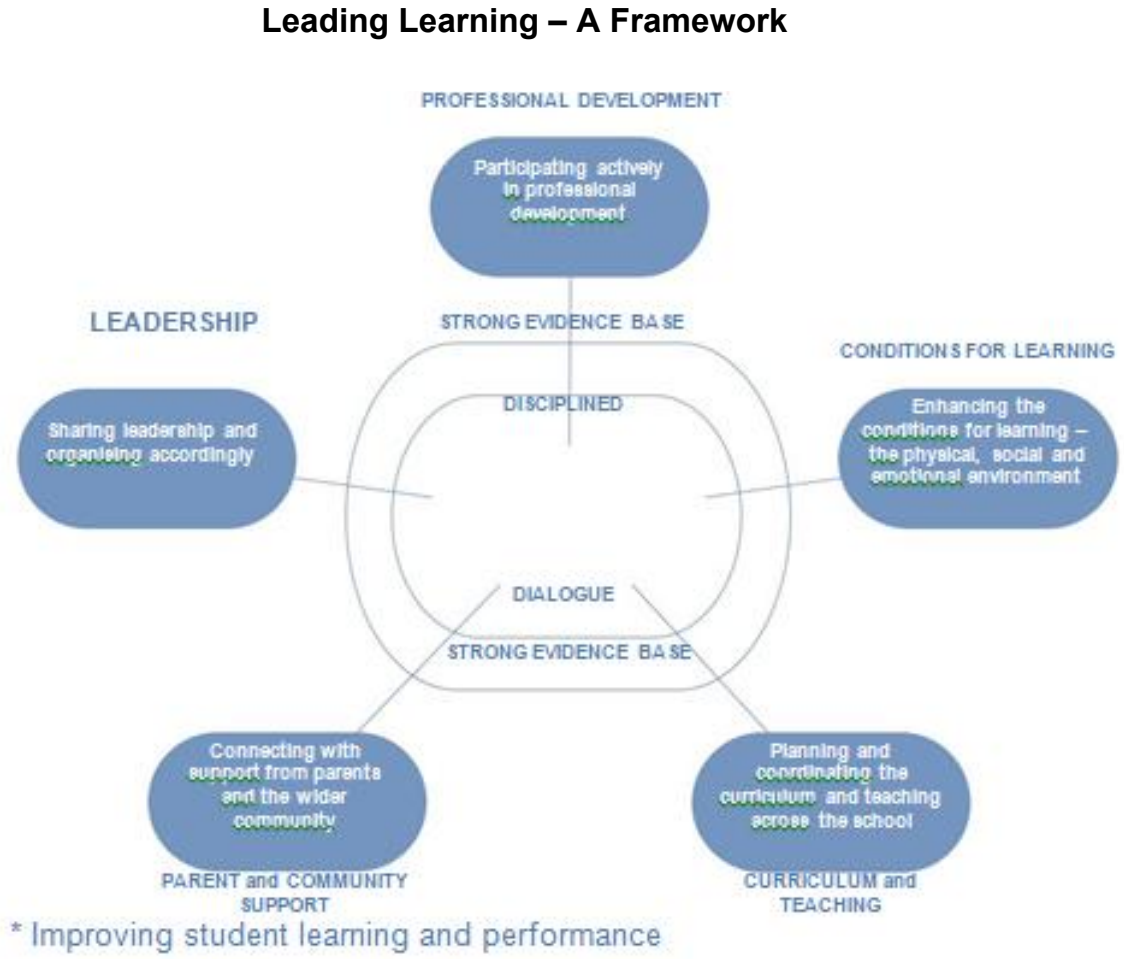
Criteria for Accreditation as a Thinking School
Burden (2008)

1. The school's principal has made a formal commitment to cognitive education as a means of school improvement in terms of the school's development plans (i.e. to staff, parents and governing body members);
2. This commitment has the explicit support of the School Governing Body;
3.A member of staff with high formal status has been given the role of Cognitive Education Co-ordinator: to organise and oversee the implementation of the cognitive education development agenda;
4. There is a staff sub-group/task force committed to the ideals of cognitive education to support the Cognitive Education Co-ordinator and help keep the development process alive and vibrant;
5. The majority of school staff (including support staff) demonstrate an understanding of what is meant by cognitive education and a commitment to it as one of the school's main aims;
6. A wide variety of thinking skills programmes and resources have been analysed and incorporated into the various aspects of the school curriculum as appropriate;
7. There is an Action Plan by which thinking skills and strategies will be or have been introduced and taught across the school, both independently and as an integrated aspect of curriculum subjects;
8. A Cognitive Education Co-ordinator will have received appropriate training in the theory, application and assessment of cognitive education;
9. There is an ongoing training programme in place which ensures access to a range of cognitive skills, strategies and resources for established and newly appointed staff;
10. Alternative and/or complementary forms of assessment (including pupil self-assessment) have been explored and implemented to reflect alternative cognitive approaches to learning;
11. There is evidence in the learning outcomes, behaviour and attitudes of the pupils to indicate that they are operating as thoughtful, responsible learners who are able to articulate how and why thinking skills and strategies are an important aspect of all that occurs in their school;
12. There is a constant review of the strengths and weaknesses of the range of cognitive resources employed with specific reference to their effects on student metacognition and transfer of skills and strategies;
13. There are regular opportunities for staff to discuss the process of cognitive education and how it can be maintained and improved;
14. The school conveys a positive, caring and creative atmosphere to students, staff and visitors, demonstrating that careful thought has been put into its organisational structure and visual presentation.

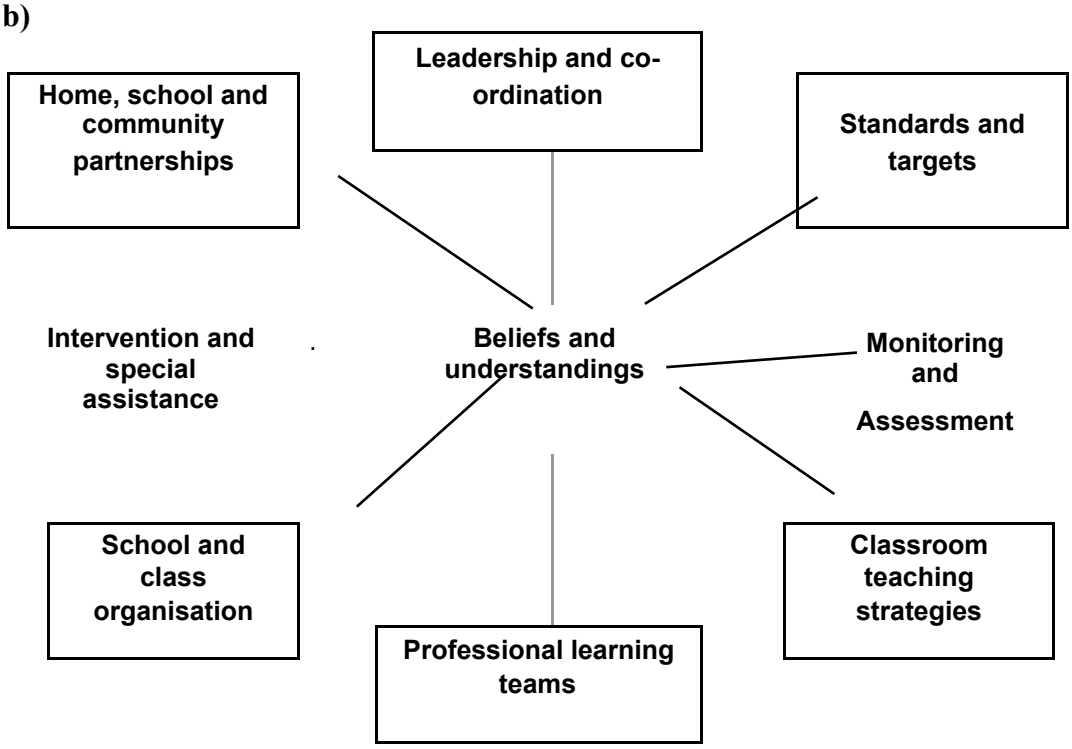
Appendix O

Curriculum Leadership models/Frameworks

a) A Framework for Leadership for Learning (Dempster, 2009).

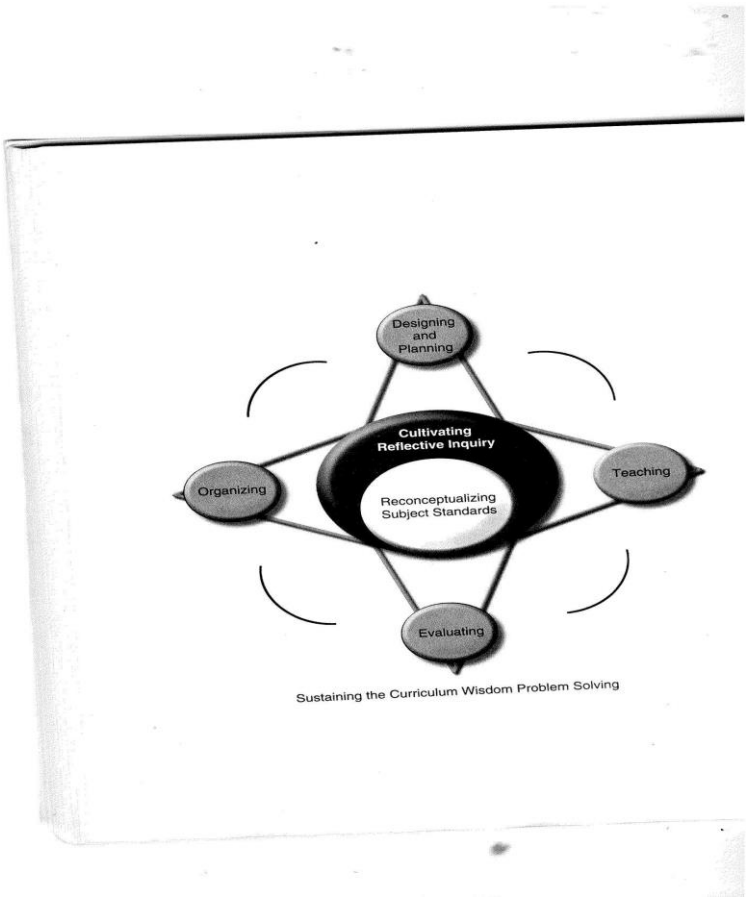


b)



General design for improving learning outcomes
(Hill & Crévola, 1997)

c) Henderson and Gornik (2007)



UNIVERSITY of the WESTERN CAPE

University of the Western Cape

Private Bag X17, Bellville 7535, South Africa
Telephone: ++27-21- 959 2255/959 2762 Fax: ++27-21- 959 1268/2266

Auditing of Data

Main Question:	What curriculum leadership practices by senior management support the development of selected primary school as Thinking School?	QQ4-SL, QQ5-SL, QQ6-SL, QQ7-SL, QQ8-SL QQ4-T, QQ5-T, QQ6-T, QQ7-T, QQ8-T IQ3-SL, IQ4-SL FGQ1, FGQ4, FGQ5

Question number	Subsidiary Questions	Questions of the Questionnaire	Questions of the Interview/Focus Group
1	What do senior management understand a Thinking School to be?	QQ1-SL, QQ2-SL, QQ3-SL QQ1-T, QQ2-T, QQ3-T	IQ1-SL, IQ2-SL FGQ2, FGQ6
2	What curriculum leadership roles do the principal and senior management members play in developing the school as a Thinking School?	QQ4-SL, QQ5-SL, QQ6-SL, QQ7-SL, QQ4-T, QQ5-T, QQ6-T, QQ7-T,	IQ3-SL, IQ4-SL FGQ1, FGQ3, FGQ4, FGQ5

*KEY (Please note)

QQ-SL (Questionnaire Question-School Leader)

QQ-T (Questionnaire Question-Teacher)

IQ-SL (Interview Question-School Leader)

FGQ-T (Focus Group Question-Teacher)

Appendix Q

Labels

Data Sets	**Principal**	**Cognitive Facilitator**	**Head of Department (HOD)**	**Teachers**
Digital Questionnaires	**QQ-SLC**	**QQ-SLB**	**QQ-SLA**	**QQ-T1** **QQ-T2** **QQ-T3** **QQ-T4**
Interviews	**IQ-SLC**	**IQ-SLB**	**IQ-SLA**	
Focus Group Interview				**FGQ-T1** **FGQ-T2** **FGQ-T3** **FGQ-T4**

*KEY (Please note)

QQ1-SLC (Questionnaire Question 1-School Leader C)

QQ2-SLB (Questionnaire Question 2-School Leader B)

QQ3-SLA (Questionnaire Question 3-School Leader A)

QQ5-T1 (Questionnaire Question 5-Teacher (1))

IQ3-SLC (Interview Question 3-School Leader C)

IQ4-SLB (Interview Question 4-School Leader B)

IQ1-SLB (Interview Question 1-School Leader B)

FGQ1-T1 (Focus Group Question 1-Teacher (1))

Please note that after each label where the word question is found, the question number that pertains to that specific topic may be inserted for example: IQ3-SLC (Interview Question 3-School Leader C

Appendix R

Data sorting, Reduction and Analyses

Research Questions	Digital Questionnaire School Leader C	Digital Questionnaire School Leader B	Digital Questionnaire School Leader A	Digital Questionnaire Teacher 1-2-3-4	Interview Question School Leader C	Interview Question School Leader B	Interview Question School A	Focus group Interview Teachers
What curriculum leadership practices by senior management support the development of selected primary schools as Thinking Schools?	QQ4-SLC QQ5-SLC QQ6-SLC QQ7-SLC QQ8-SLC	QQ4-SLB QQ5-SLB QQ6-SLB QQ7-SLB QQ8-SLB	QQ4-SLA QQ5-SLA QQ6-SLA QQ7-SLA QQ8-SLA	QQ4-T1-2-3-4 QQ5-T1-2-3-4 QQ6-T1-2-3-4 QQ7-T2-3-4 QQ8-T1-2-3-4	IQ3-SLC IQ4-SLC	IQ3-SLB IQ4-SLB	IQ3-SLA IQ4-SLA	FGQ1-T1-2-3-4 FGQ4-T1-2-3-4 FGQ5-T1-2-4
What do senior management understand a Thinking School to be?	QQ1-SLC QQ2-SLC QQ3-SLC	QQ1-SLB QQ2-SLB QQ3-SLB	QQ1-SLA QQ2-SLA QQ3-SLA	QQ1-T2-3-4 QQ2-T1-2-3-4 QQ3-T1-2-3-4	IQ1-SLC IQ2-SLC	IQ1-SLB IQ2-SLB	IQ1-SLA IQ2-SLA	FGQ2-T1-2-3-4 FGQ6-T1-2-3-4
What curriculum leadership roles do the principal and senior management members play in developing the school as a Thinking School?	QQ4-SLC QQ5-SLC QQ6-SLC QQ7-SLC	QQ4-SLB QQ5-SLB QQ6-SLB QQ7-SLB	QQ4-SLA QQ5-SLA QQ6-SLA QQ7-SLA	QQ4-T1-2-3-4 QQ5-T1-2-3-4 QQ6-T1-2-3-4 QQ7-T2-3-4	IQ3-SLC IQ4-SLC	IQ3-SLB IQ4-SLB	IQ3-SLA IQ4-SLA	FGQ1-T1-2-3-4 FQQ3-T3-4 FGQ4-T1-2-3-4 FGQ5-T1-2-4

Appendix S (Example of Data set)

Category Set Lab	Physical environment	Emotional Environment	Social Environment	Shared moral purpose	Setting direction	Professional development	Selected thinking skills programmes	Monitoring	Disciplined dialogue	Reflecti
Data Source	QQ7-P; QQ8-P QQ3-T3; QQ3-T4; IQ2-P; IQ3-P; IQ2-HOD; FGQ1-T2; FGQ2-T4; FGQ2-T3; FGQ3-T3; FGQ4-T3; FGQ4-T4; FGQ5-T2	QQ4-P; QQ4-HOD; QQ4-T2; QQ8-T2; IQ2-P; FGQ1-T2;FGQ1-T4; FGQ2-T2; FGQ3-T2; FGQ3-T4; FGQ6-T2; FGQ6-T3	QQ7-P; QQ8-P; QQ4-CF; QQ7-CF; QQ8-CF; QQ3-T2; QQ4-T2; QQ7-T2; QQ3-T4; QQ4-T4; QQ5-T4; QQ6-T4; IQ1-P; IQ2-P; IQ1-CF; IQ2-CF; IQ1-HOD; IQ2-HOD; FGQ2-T2; FGQ3-T1; FGQ3-T2; FGQ3-T4; FGQ5-T1	QQ5-P; QQ9-P; QQ5-CF; QQ9-CF; QQ8-HOD; QQ9-HOD; QQ7-T2; QQ8-T2; QQ9-T2; QQ5-T3; QQ9-T3; QQ-T3; QQ5-T4; QQ7-T4;IQ2-P;IQ3-P;IQ4-P; IQ3-HOD; FGQ1-T2; FGQ1-T3; FGQ6-T2; FGQ6-T4	QQ3-P; QQ8-P; QQ5-CF; QQ8-CF; QQ10-CF; QQ5-HOD; QQ6-HOD; QQ10-HOD; QQ5-T1; QQ6-T1; QQ8-T1; QQ5-T2; QQ6-T2; QQ7-T2; QQ10-T2; QQ7-T3; QQ8-T4; IQ1-P; IQ2-P; IQ3-P; IQ4-P; IQ3-CF; IQ4-CF; IQ3-HOD; FGQ1-T1	QQ7-P; QQ8-P; QQ5-HOD; QQ6-HOD; QQ10-HOD; QQ4-T1; QQ6-T3; QQ10-T3; QQ6-T4; IQ3-P; IQ4-P; IQ3-HOD; IQ4-HOD; FGQ1-T1; FGQ1-T3; FGQ1-T4; FGQ4-T3; FGQ4-T4; FGQ5-T1; FGQ5-T4; FGQ1-T1	QQ4-P; QQ5-P; QQ6-P; QQ4-HOD; QQ6-HOD;QQ8-HOD; QQ3-T1;QQ5-T1;QQ3-T3; QQ3-T4; QQ4-T4; IQ1-P;IQ2-P; IQ3-P; IQ1-CF; IQ2-CF; IQ1-HOD; IQ2-HOD; FGQ2-T1; FGQ2-T2; FGQ2-T3; FGQ3-T1; FGQ3-T2; FGQ3-T3; FGQ4-T1; FGQ4-T3; FGQ6-T4	QQ10-P; QQ10-CF; QQ10-T2; QQ5-T4; QQ8-T4; IQ3-HOD; IQ4-HOD; FGQ1-T1; FGQ1-T2; FGQ1-T3; FGQ1-T4; FGQ4-T3	QQ7-P; QQ8-P; QQ7-CF; QQ5-HOD; QQ6-HOD; QQ7-HOD; QQ5-T2; QQ7-T2; QQ8-T2; QQ3-T3; QQ7-T3; QQ3-T4; QQ5-T4; IQ2-P; IQ3-P; IQ4-P; IQ1-HOD; IQ2-HOD; IQ3-HOD; FGQ1-T3; FGQ1-T4; FGQ4-T1; FGQ4-T2; FGQ5-T1; FGQ6-T3	QQ3-HOD QQ4-HOD QQ3-T1; QQ3-T2; QQ3-T4; IQ3-P; IQ IQ1-CF; I HOD; IQ4 HOD; FG T4; FGQ3 T1; FGQ3 T4; FGQ5

NB!

Closed coding (Information that is expected)= Stays the colour of category but written in black e.g. "A thinking school is a school where children's, every individual's voice and thoughts are respected and documented and valued."

Open coding (Information that is not expected)= written in black but with a highlighted blue e.g. so when we are forced to have them all sitting in rows, I mean, you realise we just think the this has had to because we have gone we've been forced to go back to the old school teaching, old school teaching desks and then which then affects us as teachers."

What leaders do in the Thinking school= Is written in red but can contain the colour of the category or the open coding colour e.g. "Display of symbols and terms" and "Holistic Child Development".

Physical Environment (PE Set 1)
QQ7-P: "Display of symbols and terms**"**
QQ8-P: "Ensuring that the symbols are seen and recognised,
QQ3-T3: "A Thinking School uses specific maps and visuals to encourage the development of higher order thinking skills."
QQ3-T4: "We are loud. We encourage discussions and visible thinking using maps and Thinking tools like 'think pair share' and 'gallery walks"
IQ2-P: "There's a lot of creativity, there's a lot of colour and there's a lot of freedom as well as in the sense of the school." "colourful place".
IQ2-HOD: "I think ya, I think from the minute there would be visual things posters of the habits of mind."……." The language is used in the written and in the visual."
IQ3-P: "The schools are the same and things like the De Bono hats, but I think at the moment the habits of mind is very useful because you can reach into the homes……..Each habit has its own symbol, so that's also what you would see if you came into a thinking school. You'd see these symbols all over the place,"
FGQ1-T2: "I can see very clearly whether the teachers are actually doing the thinking maps any other time of the day and the week because they pasted all over the walls ".
FGQ2-T3: "So they make it more visual and I think that we have many visual learners nowadays and this completely supports that visual learner, this type of teaching, whereas the normal writing of notes, it just doesn't work."
FGQ2-T4: "We are encouraging more noise and interaction and conversation." "And they also, you know, my work is it's all presented because we have the maps and because we are able to present the ideas and they learn how to present the ideas."
FGQ3-T3: "so when we are forced to have them all sitting in rows, I mean, you realise we just think the this has had to because we have gone we've been forced to go back to the old school teaching, old school teaching desks and then which then affects us as teachers."
FGQ4-T3: "Well we are still unfortunately classroom size is always going to be an issue. Desk size is always going to be an issue. We haven't been able to get new desks and new classes." "No, I mean, look you would have everything you'd have all those flexible seating arrangements and we don't. " "……I think portion size and on our desks have been the one thing that is well, one of the things that is really held us back and in like limited to us."
FGQ4-T4: "I'm desperate for those big tables and you can get a whiteboard. So they have got these big tables and then you have those chairs that kind of move, you know, and then they have and then it's like one big whiteboard. So you can actually write on the desk."
FGQ5-T2: "…….she will do all the first stacking and the laminating of the boards and she will do all the cutting out and laminating all of the little things that she will have delivered to the classroom."

SETTING DIRECTION

QQ3-P: "Thinking School practice embellishes our present State Curriculum substantially. It is far-better geared towards futures in Education: Acquisition of 21st Century Teaching and Learning Skills; Less Content Base; Technology; Fourth Industrial Age"

QQ8-P: "Talk and walk the entire approach;"

QQ5-CF: "Understanding and believing in the pedagogy of the Thinking School programme so that I can answer questions and demonstrate and guide the staff and learners by my actions and words."

QQ8-CF: "Talk the talk and walk the walk. Never stop promoting, speaking about it and demonstrating the Thinking School methodology in all areas."

QQ10-CF: "Book checks and curriculum planning are other ways to investigate the level of buy-in."

QQ5-HOD: "Thinking Skills are discussed in most of our curriculum planning meetings. We support the staff with their planning."

QQ6-HOD: "Using the Habits of Mind and Thinking School strategies in our meetings, staff development sessions, in our lesson planning, reports and assemblies."

QQ10-HOD: "Promote regular opportunities for courses and provide assistance in lesson planning."

QQ5-T1: "Regular Thinking Schools Network meetings. Encouragement of developing "Uber Tasks" which in turn encourages dynamic and engaging lesson planning and delivery."

QQ6-T1: "Regular Thinking Schools Network meetings. Encouragement of developing "Uber Tasks" which in turn encourages dynamic and engaging lesson planning and delivery."

QQ8-T1: "Goal-setting"

Appendix T (Example of data analysis)

CATEGORY: ORGANISATIONAL CONDITIONS

SUB-CATEGORY - TS- Cultivate conditions to support cognitive education

SUB -SUB-CATEGORY- PHYSICAL ENVIRONMENT: Making thinking audible/visible

PARTICIPANT	QUOTE	CODE	THEME	SUB-CATEGORY
QQ7-SLC:	**"**Display of symbols and terms**"**	**Display of symbols and terms related to Cog Ed.**	**Visible thinking is demonstrated**	**Cultivate Conditions to support CED**
QQ8-SLC:	"Ensuring that the symbols are seen and recognised,"			
IQ3-SLC:	"You'd see these symbols all over the place,"			
IQ3-SLC:	Each habit has its own symbol, so that's also what you would see if you came into a thinking school.			**Physical Environment**
FGQ2-T3:	"So they [Cognitive facilitator and drive team] make it more visual"			
IQ2-SLA:	"I think ya, I think from the minute there would be visual things posters of the habits of mind."			
IQ2-SLC:	"colourful place".	**Naming and visible labelling of thinking processes**		
QQ3-T4:	We encourage……visible thinking using maps and Thinking tools like 'think pair share' and 'gallery walks" (Q T4)			
IQ2-SLA:	"The language is used in the written and in the visual."	**Creating resources to make thinking visible**	**Provide appropriate resources to support Cog. Education**	
FGQ2-T3:	"So they [Cognitive facilitator and drive team] make it more visual"			
FGQ5-T2:	"…….she will do all the first stacking and the laminating of the boards and she will do all the cutting out and laminating all of the little things that she will have delivered to the classroom."			

FGQ2-T4: **QQ3-T4:**	"We are encouraging more noise and interaction and conversation." We encourage discussions…….and Thinking tools like 'think pair share' and 'gallery walks"	**Encouraging verbal interaction**	**Audible thinking is promoted**	

Appendix U

(The Thinking School, 2017)

Figure 4 Making Thinking Visible (Pasted Posters)

Figure 6 Habits of mind poster in school hall (The Thinking School, 2017)

EXAMPLE OF LESSON STUDY CYCLE-UBER TASK PLANNING

Grade 6 English – Descriptive Writing

1 HABITS OF MIND	2 THINKING TOOLS APPARATUS & MATERIALS TECH	3 CAPS CURRICULUM CONTENT	5 LESSON OUTLINE	6 REFLECTION TOOL & OUTCOME
   	**Bloom's** – Understand Create **Double Bubble Map** – Used to compare and contrast Heroes and Villains. **Circle Map** – Used to brainstorm ideas about the character profile – characteristics, superpowers, physical attributes, weaknesses **Multi-Flow Map** – Used to identify and create the cause and effects of the main character's origin. **Flow Map** – Used to plan the sequence of events in their story. **Video** – Watchmoji (Top 10 Superheroes of All Time, Top 10 Supervillains of All Time)	Creative Writing: Narrative Fiction – Writing a Short Story	**Activity 1:** Watch videos on Superheroes and Super villains. **Activity 2:** I modelled a double-bubble map on board labelled 'Heroes' and 'Villains' Worked through the similarities and differences of the two characters. Emphasized that there are many similarities. Learners drew the map in their workbooks after discussion. **Activity 3:** Provided learners with a word bank of 'positive' and 'negative' personality traits. Dictionaries used if they were unclear of any meanings. Learners had to draw a Circle Map for each character, defining the characteristics, physical attributes, superpowers, and weaknesses. **Activity 4:** Learners to design their characters at home (either online or hand-drawn) **Activity 5:** Discuss the concept of 'origin stories' with the learners. Learners to plan the origin story of their main character using a Multi-Flow map – what happened in their life to make them the way they are? **Activity 6:** Learners to write a 10-15 line explaining how their character became a superhero (origin story). Peer assessment on Origin Story. **Activity 7:** Learners to create a Flow Map of their story as the planning for their final assessment. **Activity 8:** Final assessment - write a narrative based on the topic 'A day in the life of ... (My Superhero/Supervillain) The process involves writing a story in which they display their character's powers, talents, and abilities in an original setting. [1.5hr Test Period allocated for this]	- The learners began to understand the idea that there are similarities between the two characters even though they appear to be completely different – even their differences have similarities. This worked well as a metacognitive process. The double bubble map worked well to outline this concept. - The learners were able to begin to clearly define their characters with the use of the Circle Map. They gathered data through all their senses to begin the creative process of defining their characters. - The Multi-flow map gave the learners a sense of cause and effect and how it can influence a character's life story. - The peer editing process worked well as a metacognitive process. The learners were able to reflect on the strength of their own origin story in relation to those of their peers. -The flow map helped the learners get a sense of the order of events for their main story and as a planning tool for their creative writing. -Peer review of the creative writing piece worked well as they were able to think interdependently – many boys chose to change a
			Activity 9: Creative writing handed back to learners to review. Peer assessment used. Learners to type up and hand in.	few parts of their story after getting some new ideas from their peers. It also lessened spelling and punctuation errors.
OUTCOME P – Creative and original work was produced. The boys realised the value in thorough planning. M – The task took a fair amount of time. I – Boys are becoming more familiar with thinking maps and HOM				

(The Thinking School, 2017)

Figure 8 Examples of Lesson Planning by Leaders

Table 3 Planning for Further and Development of Thinking Curriculum

Thinking Curriculum in 2017

Thinking Ethos and Tools	Grd R	Grd 1	Grd 2	Grd 3	Grd 4	Grd 5	Grd 6	Grd 7	Staff	Assess	Reports
Habits of Mind – all	√	√	√	√	√	√	√	√	√	√	√
Bounce Back	√	√	√	√	√	√	√	√			
Thinking Maps David Hyerle											
Circle Map	√	√	√	√	√	√	√	√	√	√	
Bubble Map	√	√	√	√	√	√	√	√	√	√	
Double Bubble Map	√	√	√	√	√	√	√	√	√	√	
Tree Map	√	√	√	√	√	√	√	√	√	√	
Brace Map	√	√	√	√	√	√	√	√	√	√	
Flow Map	√	√	√	√	√	√	√	√	√	√	
Multi Flow Map	√	√	√	√	√	√	√	√	√	√	
Bridge Map	√	√	√	√	√	√	√	√	√	√	
Thinking Ethos and Tools	Grd R	Grd 1	Grd 2	Grd 3	Grd 4	Grd 5	Grd 6	Grd 7	Staff	Assess	Reports
Singapore Maths - Ban Har		√	√	√							
Harvard Thinking Routines & Hits & Hots & de Bono											
Think Pair Share											
Flat Char	√	√	√	√	√	√	√	√	√		
Gallery Walk		√	√	√	√	√	√	√	√		
Exit Ticket		√	√	√	√	√	√	√	√		
Reflection Tools											
P M I	√	√	√	√	√	√	√	√	√		
ESiW	√	√	√	√	√	√	√	√	√		
3 Stars and a Wish	√	√	√	√	√	√	√	√	√		
SWOT analysis							√	√	√		
Bloom's Taxonomy											
Remember	√	√	√	√	√	√	√	√	√	√	√
Understand	√	√	√	√	√	√	√	√	√	√	√
Apply	√	√	√	√	√	√	√	√	√	√	√
Analyse	√	√	√	√	√	√	√	√	√	√	√
Evaluate	√	√	√	√	√	√	√	√	√	√	√
Create	√	√	√	√	√	√	√	√	√	√	√
Bounce Back/DESSA	√	√	√	√	√	√	√	√	√		
Philosophy for Children		√	√	√							
Gardner's Multiple Intelligences – Study Skills						√	√				
Q Matrix					√	√	√	√	√	√	
Six Thinking Hats	√										
TASC – Belle Wallace									√		

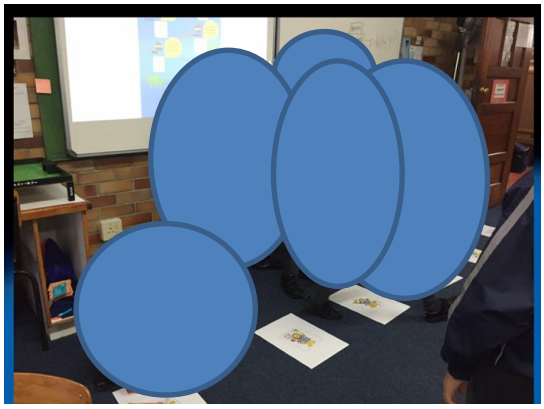
(The Thinking School, 2017)

Table 4 Staff Training

The following is a summary of the FULL STAFF presentations that have been delivered a history of the Thinking Schools process

DATE	PRESENTATION FOCUS	LINK	TARGET AUDIENCE
2013	Managing Change	MANAGING CHANGE	All Staff
2013	Habits of Mind	HABITS OF MIND A HABITS OF MIND A HABITS OF MIND S..... TRAINING EXAMPLE	All Staff
2014	Habits of Mind	HABITS OF MIND REVIEW AND RICH TASK	All Staff
2015	Thinking Maps	THINKING MAPS TRAINING	All Staff
2015	Habits of Mind	HABITS OF MIND A (Prezi presentation – need to be online to view)	All Staff
2015	Uber Task Rollout	UBER TASK ROLLOUT (Prezi presentation – need to be online to view)	All Staff
2015	Uber Task Review	UBER TASK REVIEW (Prezi presentation – need to be online to view)	All Staff
2016	Bloom's Saxonomy	BLOOM'S TAXONOMY (Prezi presentation – need to be online to view)	All Staff
2016	s a Thinking School	A THINKING SCHOOL AND STAFF PRESENTATION (Prezi presentation – need to be online to view)	All Staff & Parents
2017	Deepening Thinking	STAFF PRESENTATION - ING THINKING AT	All Staff

(The Thinking School, 2017)



(The Thinking School, 2017)

Figure 9 making use of technology to use thinking maps (whiteboard with projector)

5 - Excellent 4 - Good 3 - Average 2 - Below Average 1 - Weak

WORK HABITS	Term 1	Term 2	Term 3	Term 4
Perseveres on a task through to completion	4	4		
Checks work accurately	3	4		
Meets required due dates	4	4		
Organises learning material	4	4		
Produces neat and legible work	4	4		
PERSONAL HABITS				
Manages impulsivity in the classroom	3	3		
Displays a positive attitude	4	4		
Demonstrates responsibility	3	3		
Adheres to the School's Code of Conduct	4	4		
SOCIAL DEVELOPMENT				
Is helpful and willing to assist others	4	4		
Is able to work with and learn from others	4	4		
Embraces the School Programme	5	4		

Teacher's Comment:

Xxx is a friendly, enthusiastic member of the class and participates well during class discussions. He has worked diligently throughout the term and has achieved some pleasing results. Xxx needs to work hard at being less distracted by others in the class. Keep persisting, Xxx!

Leader's

Comment:

While you have put in some concerted effort this term, we feel certain that more can be achieved through 'Managing Impulsivity', Xxx. Now, think about 'Two Stars' that you regard as highlights of Term Two as you reflect on your achievements. Next, set yourself goals as 'A Wish', and pledge to strive for them throughout next term. Finally, have a good holiday!

(The Thinking School, 2017)

Figure 10 Using Habits of Mind in Report Comments


FP BOOK REPORT

Feb '17

Class Teach

Grade:

Names of Boys' Books Checked

Indications of regular marking, including dates	✓	
Work is CAPS compliant	✓	
Multiple opportunities to practise concepts	✓	
Positive/supportive comments	✓	

Comment:
Thank you Sam! A great start to 2017. Good to see lots of fine motor skills being practised. "Persisting" and "Striving for Accuracy" already being emphasised. Looking forward to a year of good te is in Grade One.

(The Thinking School, 2017)

Figure 12: Book check by Leader

BOOK MONITORING: Grade 4 EHL – Language Study and Creative Writing: 31 August 2017

c

External	Yes	No	Comment
Books are organised.	X		
Learner's name, grade and subject indicated.	X		
Books are generally very neat and well cared for.	X		
Content	**Yes**	**No**	
Lesson topics are clearly indicated, dated and underlined with ruler.	X		
Learners are working regularly in subject.	X		
Learners get opportunity to develop writing skills (Not over emphasis on completion of work sheets).	X		
Work covered correlates with CAPS planning.	X		
There is evidence of informal assessment.	X		
Indications of regular marking / book control.	X		
There is evidence of **Thinking Maps**.	X		
Reference to the **Habits of Mind** in written feedback.		X	
Corrections are regularly done.	X		
Enough consolidation is done to develop concepts.		X	
There is progression in teaching and learning.	X		

General Comments:

1. This is what I liked about your learners' books:

Language Structures and Conventions: You have covered an extensive range of language items, mainly at a Parts of Speech Level. Your learners are continuously challenged to strive for accuracy.

Creative Writing: You continue to set an interesting range of activities (Magical Myths + Diary Entry). Good use of Tree Maps; Double Bubble Maps and a Flow Map in your planning. I like your honest feedback to the learners (comment + rubric)

2. Area(s) for improvement:

Language Structures and Conventions: Let's encourage the learners to write in full sentences whenever possible. Will you be focusing on Sentence Level Activities? (Tenses and Simple Sentences as concepts, are difficult to grasp.) Also: peer editing should work at this level – consider using the 'three before me' thinking routine.

Creative Writing: Use the wonderment and awe icon for descriptive and narrative writing. On a reflection level, get the learners to complete a P M I or an Exit Ticket.

Thanks for all your hard work.

1 September 2017

(The Thinking School, 2017)

Figure 13: Book Monitoring and comments using Habits of Mind by Leader

PMI

HINKING SCHOOL

STAFF DEVELOPMENT 26TH June 2017

	PLUS	MINUS	INTERESTING
R	Creative teaching	Takes time to record	Sparks ideas between teachers
	Boys love it		Individual teaching strengths
	Self-esteem enhancer	Need to use type of thinking, not type of map	Boys love it
	Stretches my teaching	Not embedded in my teaching style yet	Boys love Maps and HoM
	Inspired	Workshop should be in Term 3	Need to learn more about Blooms and Reflection
1	Fun, interactive	Time constraints from CAPS	No bell, no hands up
	Interaction with peers	Need more hours	Subject teaching in FP
	Remaining open to continuous learning	Taking the easy ride and not planning for thinking	The buy-in from the boys
	Constant learning	Small classrooms	Teachers think more
2	Involvement	Not sure of the maps to use	Taking a responsible risk is great
	Love using the maps	Free for all in group work lessons	Assessment can be adapted more easily
	Interactive teaching	Noisy classes	Noisy classes are all good but I need to get used to this
	Happy boys and happy teachers	Lots of paperwork in recording	Excited for the future creating a collaborative and positive learning space
		Small classrooms less space to work collaboratively	
3	Active learning	Behaviour can spoil lessons	Involvement and successful boys
	Keeps teachers growing and thinking	Too test bound	Good to keep learning at my age
	Resources	Uniformity	Daily learning from others ideas, including boys
4	Value for boys	More lesson time required	Deeper answers from boys
	Creating deeper level critical thinking	Time consuming	
	More interactive lessons	Difficult to incorporate into CAPS	Best ideas come from unlikely places and people
		Not all teachers buy in so boys/subjects miss out	Creativity and imagination that comes through the reflective process
	Too much done for the boys	Availability of tech	Easier way to explain and evaluate
5	More creativity and deeper thinking	Restrictive curriculum	How to set out maps correctly
	Good progress	Resistance from some staff	Parents want tests to be knowledge recall
	Creates thinkers	Need to follow through	People/staff are changing and opening to new ideas
	Peer mediation	Can be very busy	Children's reaction to different maps
	Hosting conferences		

6	Teachers have to critically think about why they are teaching a particular subject	Shows how ineffective some of the old teaching methodologies are	Developing critical thinking is about moving towards the truth about our world and existence
	Creating critical thinkers not just regurgitators	Hard work at initial planning stage	Once you open up to this style you realise how brilliant it is
7	Improves higher order thinking	Can be superficial if not used correctly	UBER tasks
	Allows independent children to grow	An addition to teacher's load	Boys' thinking processes have altered when they have 'bought-in'
		Too much curriculum to be covered	Parents still favour content over cognitive skills due to assessment priorities
	Mindfulness	Chasing a piece of paper - perfunctory	
HOD Sport	Boys answering and thinking has changed	Accreditation teaching	Changed the way we teach
HOD Learning Support	Preparing young people for their future as can be used in many aspects of life	Not enough time for reflection, training	A 'bringing-together' tool for staff
			So many amazing ideas
Deputy Head	Staff buy-in Learners benefit	Not for all...initially	Boys ability is underestimated
IT	Growth as a teacher	Fear that lesson will fail	Big learning curve at my age
New teacher	Enthusiatic	Clashes with some personalities and school norms	More effective teaching

(The Thinking School, 2017)

Figure 15: PMI Reflective Tool used in Staff Trainings and Meetings

SACS JUNIOR SCHOOL

STAFF PERFOR SUREMENT: Observation Check room Visitation

Name:	**Observed by:**

Key Performance Areas:	
Performance Standard 1: Creation of a positive learning environment	
Criteria:	**a. Learning Space; b. Learner Involvement; c. Discipline**
Performance Standard 2: Knowledge of Curriculum and Learning Programmes	
Criteria:	**a. Knowledge of Subject; b. Skills**
Performance Standard 3: Lesson planning, preparation and presentation	
Criteria:	**a. Planning; b. Presentation; c. Recording**
Performance Standard 4: Learner Assessment/Achievement	
Criteria:	**a. Feedback to learners; b. Knowledge of Assessment techniques; c. Application of techniques**

Levels of Performance	
1.	**Unacceptable**
2.	**Satisfies minimum expectations**
3.	**Good**
4.	**Outstanding**

Key Performance Indicators:					
1. Creation of a positive Learning Environment					
a. Learning space	Organisation of learning space shows creativity and enables all learners to be productively engaged in individual and co-operative learning. This was observed through: • a neat, well-managed classroom; • the presence of appropriate posters; • the display of learners' work.	1	2	(3)	4
b. Learner involvement	All learners participate actively and are encouraged to exchange ideas with confidence and to be creative. This was observed through: • the variety of appropriate activities used; • the use of effective questioning techniques; • the presence of a productive learning environment.	1	2	(3)	4
c. Discipline	Learners are encouraged; there is positive reinforcement. Learners accept discipline without feeling threatened. This was observed through: • a controlled start to the lesson; • the use of the merit/demerit system fairly and consistently to discourage inappropriate behaviour; • the regular giving of praise, recognition and encouragement.	1	2	3	(4)

2. Knowledge of Curriculum and Learning Programmes					
a. Knowledge of Subject	Teacher uses knowledge to diagnose learner strengths and weaknesses in order to develop effective teaching strategies. This was observed through: • giving clear explanations of content; • encouraging a variety of solutions to the problem discussed.	1	2	(3)	4
b. Skills	Teacher skilfully involves learners in the subject. This was observed through: • catering for different learning styles; • the effective use of instructional resources; • using learner-centred techniques that promote critical thinking and problem solving; • evidence of Habits of Mind being integrated into the curriculum specifically through the use of Thinking Maps.	1	2	(3)	4
3. Lesson planning, preparation and presentation					
a. Planning	Lesson planning is abundantly clear, logical, sequential and developmental. This was observed through: • an up to date teacher's portfolio that includes a Term Planner, Weekly Planner and Assessment Programmes; • the logical sequence of learning activities used – as linked to the annual teaching plan.	1	2	3	(4)
b. Presentation	Teacher's planning of lessons are well structured and clearly fits into the broader learning programme with evidence that it builds on previous lessons as well as fully anticipating future learning activities. This was observed through: • the use of clear instructions; • learners understand and follow instructions. • effective time management.	1	2	3	(4)
c. Recording	Outstanding record keeping of planning and learner progress. This was observed through: • an up to date e-portfolio.	1	2	(3)	4

4. Learner Assessment/Achievement					
a. Feedback to learners	Feedback is insightful, regular, consistent, timeous and built into lesson design. This was observed through: • marking of workbooks; • marking of tests; • previous homework task checked	1	2	3	(4)
b. Knowledge of Assessment Techniques	Different assessment techniques used to cater for learners from diverse backgrounds, with multiple intelligences and learning styles. This was observed through: • the use of various assessment types including testing, projects, tasks and assignments. • the effective use of rubrics and multilevel questioning techniques.	1	2	(3)	4
c. Application of techniques	Assessment informs multiple intervention strategies to address specific needs of all learners, and motivates them. This was observed through: • remedial support given during the lesson; • lessons take learners' strengths and areas of weakness into account.	1	2	(3)	4
				1 – 4 Sub-total score (Max 44):	37
5. Professional Relations [This criteria will be assessed by the Headmaster]					
a. Professionalism	Involved in the School's Programme	1	2	3	4
	Adhere [illegible] alues and supports the School's confidentiality (as expressed on pg 13 of the SMT's Guide)	1	2	3	4
	Dresses appropriately	1	2	3	4
	Expresses a positive attitude	1	2	3	4
	Meets required due dates	1	2	3	4
	Displays sound interpersonal skills	1	2	3	4
	Committed to Professional Development	1	2	3	4
				5 Sub-total score (Max 28):	

GENERAL COMMENTS
Gr 4 Afrikaans – Kreatiewe Skryfwerk: Mrs XXXX started lesson by reading out an Afrikaans text and then asked the learners to explain what the narrative was about. She then proceeded to explain to the class how the creative writing process would take place. Some boys expressed reservations about writing in Afrikaans. Mrs XXXX then carefully explained to the boys how the activity would work. Her explained sequence was clearly understood and followed. She integrated Tree Maps into her lesson quite effectively. The theme was 'Die Weer'. The learners were divided into groups of three – each group would compose a Tree Map as their storyline started to unfold. Mrs Bumeister challenged the boys to decide which Habit of Mind to apply to the task. The use of 'mystery characters' created interest and creativity. The learners used the info charts to decide; the HoM icon was used as a starting point to the theme – this idea worked well and encouraged the boys to start writing. Mrs XXXX was able to facilitate the group work activity by moving between the groups. She was capable of sustaining a positive learning environment. The lesson was well structured, showing evidence of detailed planning and preparation. The major obstacle to climb is the fact that the learners are not readily exposed to Afrikaans as a spoken language and this does have a limiting [illegible].

Teacher's signa[illegible]

Academic Head'[illegible]

Date: 26/04/16

(The Thinking School, 2017)

Figure 17: Drive Team Member Assess Lesson of Teacher via Classroom Visit