Understanding Policy Enactment of Technology in Saudi Arabia: Three Case Studies in Intermediate Schools Pursuing the Future Gate Project

by

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Contents

Glossary

ADEC   Abu Dhabi Education Council

DTO   Digital Transformation Officer

DTP   Digital Transformation Project

ECS   Exploratory Case Study

ETEC   Education Training and Evaluation Commission

FGP   Future Gate Project

LA   Local Authority

LEA   Local Education Agency

LMS   Learning Management System

LRC   Learning Resource Centre

Madrasati My School Platform

MoE   Ministry of Education

NELC   National e-Learning Centre

NSM   New School Model

NTP   National Transformation Program

Tatweer Project

      King Abdullah Bin Abdul Aziz General Education Development Project

ULS   Unified Learning System

WAD   Wadi Addawasser

Watani   National School Net Project

Declaration

I certify that this thesis:

1. does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university

2. and the research within will not be submitted for any other future degree or diploma without the permission of Flinders University; and

3. to the best of my knowledge and belief, does not contain any material previously published or written by another person except where due reference is made in the text.

Signature

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27 Sep 2023

Abstract

This study examines the enactment of policy processes regarding technology in schools in Saudi Arabia, focusing on the Future Gate Project (FGP) in order to understand the nature of policy enactment in schools in a country where centralised decision-making is the norm. It explores the process of policy enactment in three Saudi intermediate schools (7–9 grade) in Wadi Addawasser (WAD) Governorate within the Saudi Arabia FGP policy change and implementation agenda. The experiences of school principals and teachers as policy actors within the FGP agenda in their schools were collected to understand the sociocultural construction and the interpretation of policy practices in schools.

The research employed an exploratory case study approach informed by policy enactment theory (Ball et al., 2012). The research adopted two methods of qualitative data collection: semi-structured interviews and school documents analysis. The study applied purposeful sampling to select the three intermediate boys schools. The interviews were conducted with 15 participants, including three school principals and 12 teachers (four teachers from each school). Analysis consisted of a hybrid approach of thematic analysis (Swain, 2018) that included inductive and deductive analysis of the sets of data gathered. The final themes generated in the analysis were: (1) knowledge of FGP policy; (2) FGP policy enactment processes, including Preparing the school environment, Motivation and the activation of FGP tools; (3) Challenges of FGP policy enactment; and (4) The FGP enactment during the Covid-19 pandemic.

The final themes were connected within Ball's policy framework elements theory to discuss and interpret the process of FGP policy enactment in schools by school principals and teachers (Ball et al., 2012). This approach emphasises how policies are interpreted, translated, mediated and recontextualised in local contexts. This approach emphasises the role of context in policy enactment, involving all four contextual dimensions (situated

context, material context, external pressures, and professional cultures). The findings of my study proved that policy enactment in schools is a sophisticated series of contextually mediated, institutionally produced interpretation and translation processes. That is, policy enactment is the interpretation and translation of processes by different policy actors across a broad set of situations and practices. The most significant finding from the study is that, despite operating in centralised systems, the three principals tried as much as possible to contextualise the policy enactment process especially through preparation of the school environment. The study presents significant policy implications in the area of school technology policy enactment, concluding that policy makers in the Ministry of Education (MoE) should consider a policy development approach that incorporates different stakeholders from the initial stages. Future researchers should consider adopting quantitative methods to establish causal relationships between different types of leadership and their impact on the school technology enactment process.

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1   Introduction

1.1 Background

In the 21st century, education systems across the globe face significant and accelerated pressures related to the use of technology and digitisation in both teaching and learning processes and management processes in schools (Aljuaid, 2016; Alkhalifah, 2018; Alkrdem, 2014; Almannie, 2015; Andres & Svoboda, 2019; Kalolo, 2019; Mårell-Olsson & Bergström, 2018). Technology has influenced education policy in many countries to fulfil the needs of modern schooling and, in developing countries, to follow the pathway of developed countries (Kalolo, 2019; Webster, 2017). Specific to the context of this study, Saudi Arabia has made efforts in the area of policy for digital transformation, leading to the adoption of educational technology in schools. Vision 2030, launched in 2016, sets out the government's plans to achieve the integration of educational technology in all public schools by 2030 (Alharbi, 2017). Since 2016, the policies guiding the adoption of technology in Saudi schools have been attributed to the objectives of Vision 2030. To achieve these objectives, various education-oriented policies were developed to guide the transformation agenda, including technology policies as part of school-oriented policies (Alharbi, 2017).

Saudi Arabia has introduced new technologies into the educational process through reform projects, over the last 20 years, such as Learning Resource Centres (LRCs) (Al Mofarreh, 2016), the National School Net Project (Watani) (Alharbi, 2019), the King Abdullah Bin Abdul Aziz General Education Development Project (Tatweer Project) (Alenezi, 2017;

Alharbi, 2019; Alharthi, 2018). In 2017, the Digital Transformation Project (DTP) was launched in Saudi Arabia schools and is one of the Saudi Vision 2030 elements that aims to chart the course of the country's economic, social and educational (including technological) development over the next decade. It has an emphasis on both student education and the growth of the teaching profession (Al Ohali et al., 2018; Alharbi, 2019). The first initiative of DTP was the Future Gate Project (FGP) (Al Ohali et al., 2018; Sulaymani et al., 2022). This is the focus of my study.

The FGP was launched to promote the quality of education in Saudi schools by providing a new learning environment in which students, teachers and school leaders use technology to deliver education to students, as well as to improve student educational outcomes (Al Ohali et al., 2018). At the time the FGP was launched, the education system in Saudi still had room for improvement in terms of incorporating modern technologies to enhance students' learning (Alharbi, 2019). To integrate the new technologies into the educational process in schools, policies were initially established to create a framework to guide the process of incorporating modern technologies in schools.

In pursuing a study that investigates a policy enactment process I understood that the policy enactment process (Ball et al., 2012) may vary from country to country, even from school to school (Shaheen, 2020). Thus, the focus of my study is to determine how educational technology policies are enacted in Saudi schools, in particular, the FGP policy, in order to understand the process of leading change directed by policy in the uniquely situated context of Saudi Arabia schooling.

1.2 Policy enactment in schools

Policy enactment in schools is a sophisticated series of contextually mediated, institutionally produced interpretation and translation processes (Ball et al., 2012). That is, policy enactment is the interpretation and translation of processes by different policy actors across a broad set of situations and practices (Maguire et al., 2015; Singh et al., 2014). Policy enactment is therefore a process of interpreting and translating policy by the concerned stakeholders in different practices (Maguire et al., 2015; Singh et al., 2014). The process of policy enactment has been used to portray the extent to which complex policy cycles guide the education reform process in schools (Singh et al., 2014). A school setting is associated with situated and contextual social, cultural and emotional constructions, including government directions; hence, the school setting is considered in policy development and implementation research (Ball et al., 2012; Heffernan, 2018; Power & Taylor, 2021).

With regard to the intentions of my research, studying different forms of policy enactment and implementation in schools by school policy actors such as school principals and teachers within education system reform is considered crucial in order to understand the process of leading change directed by policy (AlSharija, 2012; LaBonte, 2005). It is essential to view the process of school policy enactment from different perspectives to understand it (Alkahtani, 2017; Barrera, 2013; Bentham, 2020; Shaheen, 2020). Specifically, understanding how educational technology policies are enacted in the context of Saudi schools is important to achieve the optimal integration of policies for technology projects in schools.

1.3 Research problem statement

Previous studies on the progress of technological policy implementation in Saudi schools found that the implementation of the policies studied failed to meet the expectations and aims of the educational development initiatives (Alenezi, 2017; Alharbi, 2019; Alyami, 2014; Oyaid, 2009). According to Alharbi (2019), there are significant design and implementation issues with technologiocal initiatives policies in Saudi Arabia schools. Alharbi's findings exposed that the absence of a national ICT policy strategy in education is the main reason for past issues in technological projects policy implementation. Also, due to a lack of cooperation between local education authorities and schools, particularly in teacher preparation, there was a significant implementation gap in ICT efforts at the local level. For example, the low use of ICT in the classroom was an issue for policy implementation before the FGP (Alharbi, 2019).

In addition to these problems, other challenges facing previous Saudi technological projects policy implementation have been identified (Albugami & Ahmed, 2015; Alkahtani, 2017). For example, the leading challenge identified in technology policy enactment in Saudi schools has been the lack of adequate financial resources to sustain ICT hardware and software to ensure their continued use in schools (Alkahtani, 2017). Since ICT hardware and software are costly, schools need enough funds to purchase, install and maintain them. Moreover, translation of technology education policy into practice has also faced the challenge of weak communication and monitoring processes by school leadership. School principals should be the facilitators in the translation and practice process of ICT policy at the school level (Albugami & Ahmed, 2015). In the absence of effective communication and mentorship from leaders (such as school principals) of technology change, it is more likely to be a challenge for the users to enact the required policy guidelines. Other factors found to have hindered previous technology policy transfer into integration in Saudi schools included

negative attitudes from teachers, inadequate training, inappropriate management and insufficient infrastructure (Albugami & Ahmed, 2015).

Past studies in Saudi Arabia did not address the dimensions of the FGP policy enactment process by the policy actors inside schools, such as principals and teachers, leaving a gap in understanding policy work in the Saudi school technology context. Thus, studying the enactment process of the FGP policy in schools is important to comprehend the process of leading change by school policy actors such as principals, school leaders and teachers, in the context of school systems like the Saudi system, which has the potential to illuminate new understandings about how schools do "policy work" inside schools (Ball et al., 2011a; Maguire et al., 2015). There is a lack of extant current literature that explicitly elaborates the process of school technology policy enactment and change agenda in the context of Saudi schools. This study addresses this knowledge gap.

1.4 The purpose of study

The study examines the enactment of policy processes regarding technology in schools in Saudi Arabia, focusing on the FGP in order to understand the nature of policy enactment in schools in a country where centralised decision-making is the norm. I explored the process of policy enactment in three Saudi intermediate schools (7–9 grade) in Wadi Addawasser (WAD) Governorate undertaking the Saudi Arabia FGP policy change and implementation agenda. To understand the policy work occurring, the research investigated the experiences of the school principals and teachers with the FGP agenda in their schools to gain insight into the sociocultural construction and the interpretation of policy practices in schools.

1.5 Research question

The research purpose of understanding the nature of policy enactment processes by school principals and teachers for change in Saudi Arabia schools led to the thesis research question:

How did the school principals and teachers in three Saudi Arabia intermediate schools in the WAD Governorate interpret and enact policy within the FGP policy change and implementation agenda?

1.6 Research objectives:

To answer the research question, the following objectives were developed:

1. to explore the policy enactment processes of school principals to change within the FGP policy agenda.

2. to determine the teachers' perceptions of the FGP policy enactment at their school.

1.7 Significance

The research contributes to a deeper understanding of leading policy enactment for change in Saudi Arabia by examining policy enactment in three schools within the FGP activating process. The research provided the following outcomes:

1. understanding of educational change in a country undergoing rapid technological development.

2. identifying barriers associated with the embedding phase of policy enactment.

3. providing insights and advice for the making of policy.

4. providing opportunities to recommend improvements and research in policy enactment and the process of leading change within the situated uniqueness of Saudi FGP policy and other policies in the future.

1.8 Conclusion

Chapter 1 has introduced the study. It has laid down the platform for the research into policy enactment in Saudi Arabia schools by outlining the background, research problem, the purpose of the study, research question, research objectives and research significance. The chapter suggested there is a need for research that investigates technology policy enactment by school principals and teachers in Saudi Arabia schools. Chapter 2 reviews the study context (Saudi Arabia), explaining the Saudi education system. The chapter evaluates the literature on recent technological initiatives in Saudi schools. Then, the FGP is explained in some detail because it relates more to the topic of this dissertation. Finally, it clarifies the context of the study with the disruption of the Covid-19 pandemic, which offers an opportunity to examine the school leadership's knowledge of the FGP policy's adoption processes and identify hurdles to the embedding phase during the crisis, which could positively affect the future activation of technology projects in schools.

2 Study Context (Saudi Arabia)

2.1 Introduction

Saudi Arabia is located in the Middle East and is the largest country in the Arabian Peninsula. In addition to serving as the birthplace of Islam (Al Mofarreh, 2016; Alharbi, 2019), it is renowned for its rich cultural legacy. Saudi Arabia has 13 provinces across which 34 million people live who are united by the Arabic language, but each region has a unique dialect, traditions, heritage and culinary identity (Vision 2030, 2023). Figure 2.1 (below) shows the provinces of Saudi Arabia situated in the centre of the Middle East.

Figure 2.1: Map of Saudi Arabia showing the 13 provinces adapted from Wikipedia by Faisal Al-Abdullah [edited by Fahad Aldawsari], licensed under a Creative Commons Attribution-ShareAlike 4.0 licence.

Saudi Arabia has started a significant economic and social transition, outlined in its Vision 2030, which led to the establishment of a new economic system that prompted the creation of a diversified and robust economy that achieves sustainable growth for Saudi Arabia (OECD, 2020; World Bank, 2022). The government system in Saudi Arabia is a monarchy, with the Saud family in royal and governmental leadership of Saudi Arabia for nearly three hundred years, with rule of law based on the Quran and Sharia law (Alharbi, 2019). Together with the monarchy, the Council of Ministers monitors administrative and executive decisions.

Islam has priority over all moral standards and behaviours. Saudi Arabia's infrastructure and way of life are religiously embodied. Islam mandates that every Muslim, male or female, must acquire knowledge. Islam respects persons who seek knowledge (Alharbi, 2019; Vision 2030, 2023). Thus, education plays a major part in Saudi Arabia culture.

The education system, managed by the Ministry of Education (MoE), plays a significant role in the social and economic development of the nation (Ministry of Education, 2023e). The vision of the MoE is to provide distinguished, high-quality education with qualified educational cadres to build proud citizens and global competitors (Ministry of Education, 2023e). Thus, the MoE works to achieve the general goals through which the environment and its educational institutions can be improved, along with its outputs (Ministry of Education, 2023d). Science and technology are fundamental faculties in this regard as they are ever-expanding domains (Alharthi, 2018). However, the arts, literature and culture continue to be valued in Saudi Arabia education (Al Mofarreh, 2016).

2.2 Education system and policy in Saudi Arabia

The MoE supervises education in Saudi Arabia and is responsible for implementing the goals of Vision 2030 and achieving the objectives of the National Transformation Program (NTP), which assesses Ministry-level progress towards accomplishing Vision 2030's aims (OECD, 2020). The vision of the MoE is distinguished, high-quality education with qualified educational cadres to build proud citizens and global competitors (Ministry of Education, 2023e). The mission of the MoE is to make education accessible to all, raise the quality of its processes and outputs, develop an educational environment that stimulates creativity and innovation to meet the requirements of development, improve governance of the education system, developing the skills and capabilities of its employees, and provide learners with the necessary values and skills to become good citizens, aware of their responsibilities towards the family, society and homeland (Ministry of Education, 2023e). The MoE works to achieve broad-ranging objectives so that its educational institutions, the environment and the quality of its outputs can all be improved (Ministry of Education, 2023d). According to the following purpose and overarching objectives, the Ministry strives to uphold the principle of global competitiveness in education and development:

1. Enhancing family participation to prepare for their children's future.

2. Building an integrated educational journey.

3. Improving equal access to education.

4. Improving the basic educational outcomes.

5. Improving the ranking of educational institutions.

6. Providing qualitative knowledge for distinguished people in priority areas.

7. Ensuring that educational outcomes are compatible with labour market demands (Ministry of Education, 2023d).

The MoE distributes administration duties to 47 directorates across the nation, which, based on the extent of the directorate, are further divided into education offices, totalling 240 (Ministry of Education, 2023b; OECD, 2020). With the same departments, subdivisions and reporting hierarchies as the national MoE, each division and education office is structured identically. Even though the managerial organisation of MoE is decentralised, the decision-making authority is heavily centralised. Nearly all policy is made by the MoE, which then communicates its choices to lower levels of government (directorates and education offices), which are then expected to carry them out (OECD, 2020). For instance, the learning anticipations, teacher policies and school assessment guidelines are established and expected to be implemented consistently across the nation.

Managing school statistics

The process mainly responsible for managing school statistics in Saudi Arabia is the NOOR database (Ministry of Education, 2023c). The Noor system replaced the Maaref system, which had been in operation at the Ministry for fifteen years, from 1998 to 2012. The Maaref system was a system for managing the process of entering and collecting student data and their test results. The Maaref system was a decentralized system that was independently prepared and operated in each school. The system initially started as a centralized system for managing general secondary exams, including monitoring, tracking, certificate printing, and user permissions. It was later expanded to cover all educational stages and was named the Noor system after an open vote by the education administrations and their staff (Ministry of Education, 2023c).

The Noor Ministry system is an educational management system that includes the collection, analysis, and monitoring of data related to all processes concerning the school and its impact on the student's educational journey. It provides a massive database hosted on the Ministry's servers and managed by the database team at the Ministry's General Digital Transformation Administration. The system includes automation of all educational management operations, covering administrative procedures for more than 21 general administrations in the Ministry such as examinations, curriculum system, Learning resources, special education, attendance and absence system, teachers' affairs, educational supervision, training system, school transportation and other subsystems. It operates at three levels (Ministry, Education Administration, and School) to govern administrative procedures and accreditations (Ministry of Education, 2023c). Moreover, the school system's human resources information, including wages, is kept in an auxiliary database called FARES. All system actors have access to the data in these two systems and use it for administration and tracking functions. Despite the fact that these systems are exhaustive, principals and teachers receive little assistance about how to use them for enhancing their schools (OECD, 2020).

Education phases

The phases of education are divided into four levels: Pre-school, Primary, Intermediate, and Secondary (High) schools, as detailed in Table 2.1 below.

Table 2.1: Phases of education of Saudi Arabia

Level	Grades	Age	Years
Preschool	–	3–6	3
Primary	1–6	7–12	6
Intermediate	7–9	13–15	3
Secondary	10–12	16–18	3

Primary school is for children aged 7 to 12. Children at intermediate school are 13 to 15 years old, while those in secondary school are 16 to 18 years old and must attend for three years. In addition, because of the conservative nature of Saudi Arabia society, due to religious and cultural beliefs, the education system adopts the separation of genders in schools while maintaining the right of women in the labour market and social participation as for men. However, the MoE recently decided that female teachers would teach both sexes of children at primary schools. The rationale was that, as students spend more time with and are affected by their mothers than their fathers, children of this age would learn more from female teachers (Alharbi, 2019).

School supervision

Saudi Arabia's 'supervision' method is the primary tool for assessing the effectiveness of school processes and outcomes (OECD, 2020). Teacher supervisors and principal supervisors are the two primary supervisory groups in this scheme. Although they adhere to a set of national oversight guidelines established by the Directorate General for Educational Supervision in the MoE, they are administered at the district or education office level. According to the OECD report (2020), there are about 10,000 supervisors working (the majority were teachers or principals). Although there are standardised tools and strict central guidelines for supervision, there are few ways to make sure that supervisors' judgement is consistent (OECD, 2020). Consequently, supervisor evaluations may not truly represent the teaching and learning taking place in classrooms in a consistent way. However, a new school evaluation framework is being developed by the Education Training and Evaluation Commission (ETEC), a national organisation for setting standards, accreditation and assessment (OECD, 2020). This framework will establish, for the first time, clear national

standards for education and procedures for both external school evaluation and self-evaluation. The ETEC is also looking into novel ways to benchmark school performance.

School leadership

Principals and deputy principals together make up the official school leadership staff at Saudi Arabia's schools and hold the posts of formal school administration (Ministry of Education, 2023a). They are chosen and charged with their work, from those who hold the rank of a practising teacher or higher level (Ministry of Education, 2023a). They are assigned to work according to the following conditions: to meet the professional standards and necessary conditions, to achieve the minimum professional development points, the job performance evaluation prepared for them for the previous two years should not be less than a very good rating or its equivalent, and to pass the various tests and assessments set by the Ministry for this purpose such as Qiyas test given by the ETEC (Ministry of Education, 2023a). The Ministry may – when necessary and required by the educational interest – make an exception from the first two conditions. Moreover, teachers and principals share almost the same civil service status and salary (OECD, 2020). The list of new educational jobs announced for its approval stipulates the disbursement of bonuses to school leaders ($800 Saudi riyals per month) and deputies ($500 Saudi riyals per month) during their assignment period (Ministry of Education, 2023a). Consequently, this small difference in salary, even with these bonuses is little incentive for teachers, particularly those who may be talented "future leaders", to become principals. This ensures that in most cases there is only one applicant for a job, preventing the use of stringent selection criteria. Sometimes the teachers at the school come to an agreement on who will become the principal (OECD, 2020).

The principals and deputy principals are in charge of affairs involving students, teachers, and the school. Guidelines for school leaders explain the school leadership responsibilities at schools (Ministry of Education, 2023a). However, some schools have officially assigned

leadership duties to their most experienced teachers, though this is not recorded or shown in MoE systems (OECD, 2020). Further, teachers are obligated to participate in the planning, design and evaluation of teaching and learning, and the management of activities programs and student events, participation in professional development processes, and the administrative and organisational tasks assigned to them within the school (Ministry of Education, 2023a).

The Saudi Arabia education reforms have contributed to the emergence of new leadership positions in schools related to the integration of technological projects in the educational process. For example, the leadership position provided by Learning Resource Centres (LRCs) have appeared in Saudi Arabia schools as a result of this reform (Alenezi, 2017). LRCs promoted the formation of a technology-motivated educational environment. The LRC administrators are mainly teachers who have been given the responsibility of managing an LRC. They have received training programs from the MoE on how to use ICT tools, information on technological advancements, and academic and technical knowledge they could use in classroom environments (Alenezi, 2017). In addition, keeping pace with achieving the objectives of Vision 2030 and the National Transformation Project (NTP), the MoE established the Digital Transformation Project (DTP) to integrate the development of technology into education processes (Alharbi, 2019). As a result, another school leadership position was assigned as the digital transformation officer (DTO). The DTO is a teacher or an official in the school who is nominated by the school principal and is responsible for providing assistance and developmental programs to support teachers and students towards digital transformation to achieve Vision 2030.

These new leadership positions in technology-oriented schools represent what is known about technology leadership, which includes not only the school management but also other staff members (Alenezi, 2017). Technology leadership is also delegated to other school

members and should be delegated within a collaborative environment. In the Saudi Arabia context, the school principals delegate the leadership positions in technology-oriented schools to the LRC administrator and the DTOs. However, the findings of the study conducting by Alenezi (2017) showed that technology leadership by the LRC administrators in Saudi Arabia schools was an individual rather than collective responsibility: meaning, their attitudes towards technology were restricted to self-development and the creation of personal positive attitudes towards using technology to teach. My intention with this thesis is to explore the context of school leadership in the process of enacting the FGP policy supervised by school principals and teachers at school.

The leadership dimension is one of the core strategic dimensions of a comprehensive evaluation framework, K–12 Online Learning, in addition to teaching and learning, and data-driven dimensions created recently by the National e-Learning Centre (NELC). The NELC is an independent entity created by the Council of Ministers of Saudi Arabia to promote trust in e-learning programs, driving innovation in the digital transformation of learning and facilitating the integration of schools with labour market demands (OLC, 2020; UNESCO, 2022). The framework of K–12 Online Learning is a helpful organisational construct for the work that is currently being planned and pursued to guarantee unmatched student success for all learners, and to represent the spirit of constant development required for 21st-century education (OLC, 2020).

The leadership dimension of the framework of K–12 Online Learning takes into consideration the leadership – both positional and behavioural elements – that Saudi Arabia needs to promote creativity and future student achievement. There are three subdimensions of leadership: policy, technology and training (OLC, 2020). The three subdimensions of leadership have strategic supporting plans to achieve the inclusive goal of the leadership dimension of the evaluation framework of K–12 Online Learning.

There are expectations that the education sector in Saudi Arabia will benefit more from technology-related policies; hence, these policies are a consideration of the Saudi Arabia Vision 2030 (Alkhalifah, 2018). Concerning this study, which examines the enactment of policy processes regarding technology in schools in Saudi Arabia, it is appropriate to mention in some detail the efforts of the MoE in integrating the technology projects policies in schools that serve as examples of technology development in Saudi Arabia.

2.3 Technology projects in Saudi schools

The MoE has worked to increase technology use in classrooms to enhance education outcomes, unveiling a series of initiatives and programs (Al Harbi, 2014). The next section summarises these initiatives and programs and the findings from relevant research attached to this work.

Learning Resource Centres Project (LRCs)

The LRC aimed to develop all of the country's school libraries with new ICT by enhancing 2000 to 3500 school libraries each year (Al Harbi, 2014). The project began in 1997, developing school libraries into resource centres to support the curriculum and learning processes, and allow both teachers and students access to the available ICT (Alharbi, 2019). Depending on the size of a school, each resource centre is equipped with computers, printers, projectors, TV, DVD, network connectivity, and educational and multimedia programs. The aim of LRCs at schools was to offer students and instructors an assisted teaching and learning environment where they may access diverse curricula-related information resources, including, in addition to books, new technologies (e.g. apps), instructional software and the internet (Al Mofarreh, 2016). There is an LRC now in every school, with a space that teachers can use to hold a class if they wish (Alharbi, 2019). Teachers who have been assigned the duty of running LRCs make up the majority of LRC managers. They engaged

in training programs from the MoE on how to use ICT tools, details on technological developments, and scholastic and technical information they could apply in the classroom.

National School Net Project (Watani)

Watani was launched in 2000 to support schools with computer labs and to connect schools to computer networks. The project also offered training programs for selected teachers who teach in the computer labs (Al Harbi, 2014). The primary purpose of this project was to increase teachers' use of ICT in all educational activities in all regions of the country (Alharbi, 2019). Other objectives included improvement of student learning skills through the use of ICT, expansion of student knowledge through access to electronic resources and instilling in students a sense of readiness for the future (Alharbi, 2019).

The findings of Al Mofarreh study (2016) indicate that, because principals, teachers and ICT managers do not have the authority to influence the policy development process of LRCs and Watani projects, their role was minor and limited to policy implementation. Top-down structures of policy implementation (centralised system) limit an individual's ability to influence change. Thus, the centralised system restricts school principals and teachers from being creative, thinking outside the box, which implies that innovative teaching strategies are less likely to be used by teachers (Al Mofarreh, 2016).

Tatweer Project

The King Abdullah Bin Abdul Aziz General Education Development Project, also known as the Tatweer Project, was an education system development plan launched in 2007 with the aim of improving public education through teacher training and curriculum development (Alenezi, 2017; Alharthi, 2018). The ultimate goal of the project was to reform the nation's educational system, including the use of ICT in the classroom, in order to hasten the pace of national development (Alharbi, 2019). The project consists of a number of parts, such as ICT

Integration in the Educational Process, which takes into account school administration, e-content and digital curriculum, and ICT school environments conducive to the teaching and learning process (Alharbi, 2019). The Tatweer Project is an example of how school technology policy is implemented in Saudi Arabia as part of education reforms.

The Tatweer Project was implemented in Saudi Arabia schools to enhance problem-solving and critical-thinking abilities, as well as to encourage teachers and students to use ICT (Albugami & Ahmed, 2015; Alharthi, 2018). The project endeavoured to increase teachers' and students' access to knowledge sources while also fostering self-learning and cooperative learning abilities (Alharthi, 2018). The literature indicates that school principals of non-Tatweer schools enjoy limited powers to enhance educational processes (Mathis, 2010). The MoE held authority over the powers of the school principals and, thus, limited the autonomy of their decision-making. The centralised system of the MoE eliminated school autonomy, which has been cited as a factor of demotivation among school principals (Alzaidi, 2008). Hence, it is a challenge for school principals to make decisions and so their role is more akin to that of managers and not leaders. However, in the Tatweer Project implementation, to some extent schools were characterised by less stringent centralised rules, as the project allowed school autonomy (OECD, 2020). School principals were granted more autonomy to make decisions to achieve their school's vision and purposes (Alyami, 2014). Other stakeholders allowed to participate in the decision-making process included members of the community, parents, students and teachers (Alyami, 2014). Moreover, in Tatweer schools, the government provided advanced technological tools of the time, such as computers and internet connectivity (Al Mofarreh, 2016; Alyami, 2014). Professional development in Tatweer schools also trained principals and teachers in the use of technology (Alyami, 2014).

Earlier in the thesis, it was reported that the MoE launched the DTP in 2017 to chart the nation's economic, social and educational development over the next ten years. Its focus was

on student education and the advancement of the teaching profession in order to keep up with the goals of Vision 2030 (Al Ohali et al., 2018; Alharbi, 2019). This happened to coincide with the transformation to online education during the Covid-19 pandemic (UNESCO, 2022). Dr Hamad Al-Sheikh, the Saudi Arabia Minister of Education, stated during a media conference held during the G20 Summit in Riyadh (2020) that "blended education – the combination of online and physical learning – has become the new norm because of Covid-19 pandemic. It is going to be the beginning of a new era in education, where blended education is the norm" (*Arab News*, 2020). This demonstrates the Saudi Arabia education leadership's interest in the integration of blended learning into Saudi Arabia's education system (UNESCO, 2022). As a result, digital initiatives such as the FGP, which has been launched in Saudi Arabia schools by MoE, have become more important.

Madrasati platform

Another DTP initiative is My School Platform (Madrasati) (Madrasati means "my school" in Arabic), which is a national learning management system. The MoE launched the Madrasati platform during the Covid-19 pandemic in the 2020–21 school year (Al-Samiri, 2021; Oraif & Elyas, 2021; UNESCO, 2022). In order to provide a complete solution to facilitate the educational process, the MOE linked Madrasati with other school information tools such as the Content Repository and the Student–Staff Information System. The MoE collaborated with Microsoft to integrate its Teams platform into the Madrasati platform to support its technical foundation. All public and private schools were given access to the Madrasati platform (UNESCO, 2022). According to a UNESCO report (2022), nearly all students (98 per cent) were able to use the Madrasati app as their primary means of virtual education during the Covid-19 pandemic.

The Madrasati platform serves over six million male and female students and their parents, as well as 525,000 professionals working in education. This project has several learning

strategies to facilitate distance learning. Visual communication is one of the platform's capabilities, as is posting assignments and accessing enrichment materials and recorded lectures, as well as delivering exams and evaluation, among other things (Oraif & Elyas, 2021). In addition to the Madrasati platform, other technical initiatives support the educational process, such as the Ien TV Educational Channels and the Ien YouTube Educational Channels in which all lessons of the education curriculum are explained (Oraif & Elyas, 2021).

Future Gate Project (FGP)

Mentioned in the introduction, the FGP was the first initiative of DTP to support the transition of Saudi Arabia schools to digital education, which is the main goal of Saudi Arabia's Vision 2030 (Al Ohali et al., 2018; Sulaymani et al., 2022). The policy of the FGP is the focus of my research, exploring the dimensions of the enactment of technology policy by school principals and teachers. Thus, the FGP will be considered in some detail to provide more context to the study.

The FGP was launched in three activation phases, portrayed in Figure 2.2, from 2017 to 2020. The first project phase began in 2017 in 150 schools in Riyadh and Jeddah. In 2018, the second phase of the project targeted an expansion plan, which covered 1500 schools in Riyadh, Makkah and Dammam. Most schools in Saudi Arabia were expected to activate the project by 2020 (Al Ohali et al., 2018).
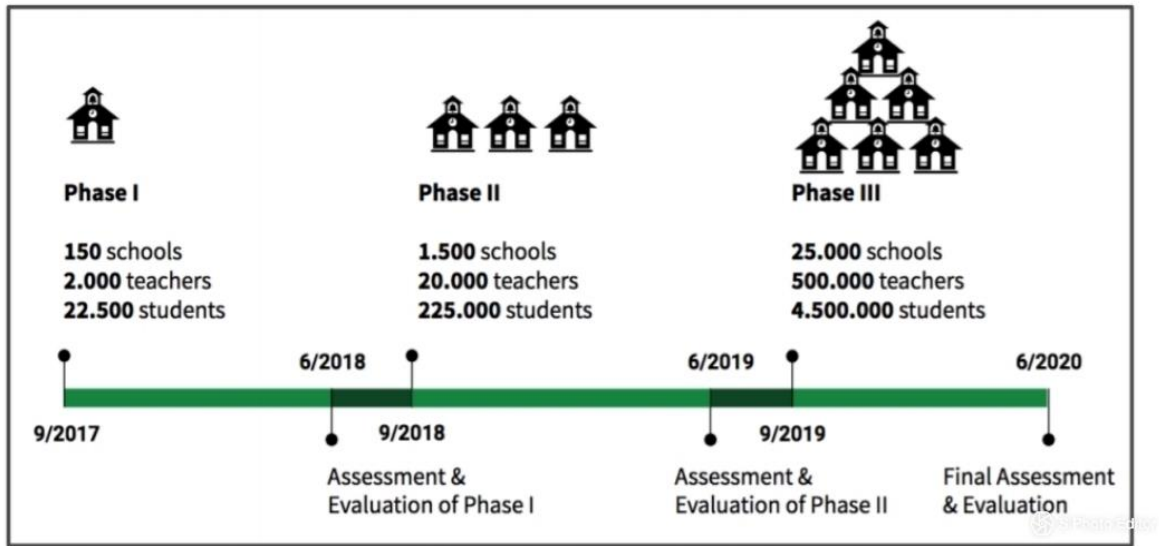
Figure 2.2: The phases of the Future Gate Project, cited by Al Ohali et al. (2018, p. 2)

The FGP involves more than 25,000 schools, 4,500,000 students and more than 500,000 teachers in Saudi Arabia. Students, teachers and school leaders are instrumental in creating the envisioned new learning environment based on technology for delivering education to students, as well as increasing their educational output (Al Ohali et al., 2018). Thus, the FGP is highly significant in terms of promoting the quality of education in the Kingdom. The MoE created project tool guidelines for school principals and vice-principals, and the project coordinators at the school, shown in Figure 2.3.

Future Gate Platform Tools

School principal & Vice

- Review the lesson preparation report.
- Review the weekly plan report.
- Review of attendance and departure.
- Virtual Meetings.
- Communicating with the beneficiaries

FG Coordinator

- View and extract reports and statistics for the school.
- Management of the school account of FG platform.
- Virtual Meetings
- Management of Communication.
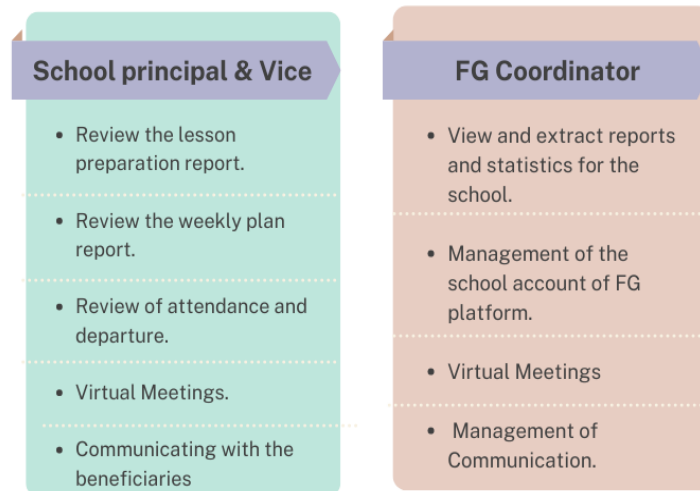
Figure 2.3: FGP tools for school principals and vice-principals, and the FGP coordinator

The FGP system provided many tools in its platform to help the schools' principals and vice-principals supervise everything that occurs in the virtual learning process. This includes following up the outputs of learning, such as reviewing the lesson preparation report, the weekly plan report and student attendance. Further, the FGP platform also offers a variety of tools that assist the FGP coordinator in the digital transformation office at each school. These tools help to manage the FGP efficiently, such as by viewing and extracting reports and statistics for the school and managing the school account of the platform. The FGP platform includes tools that allow the coordinator to manage all user permissions and accounts, as well as manage and monitor all FGP tools. The FGP coordinator assists the school principal to implement the digital transformation plan, training teachers and helping students to use the FGP tools effectively (Future Gate Project, 2019).

No digital education project at a school can be activated without teachers' participation. Therefore, another guideline policy of FGP for the teachers was to enhance the enactment process by simplifying the policy. It includes various tools to facilitate the FGP activation with teachers, shown in Figure 2.4.
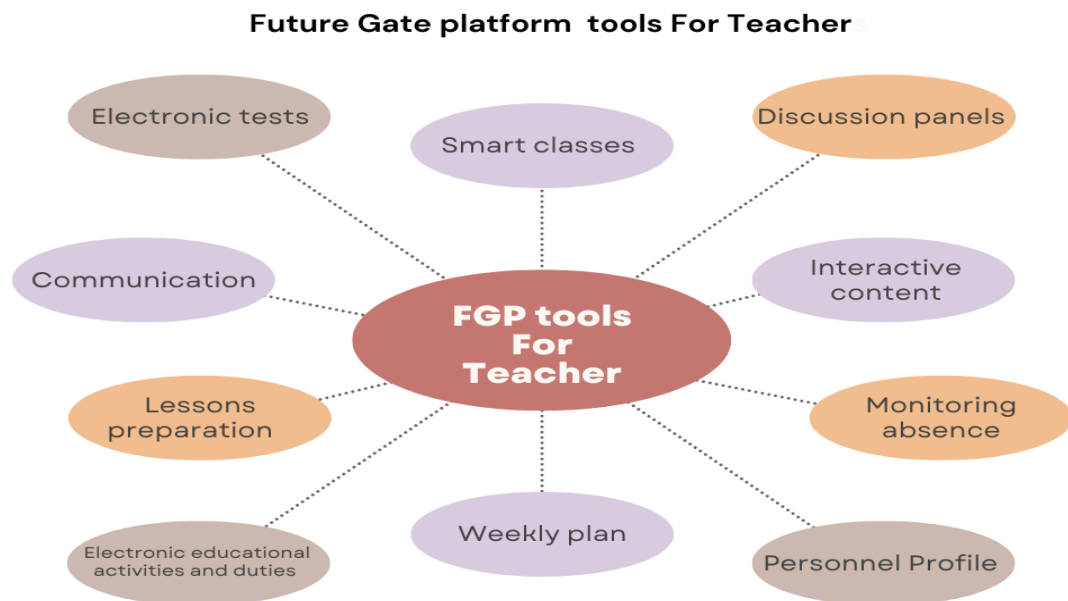
Figure 2.4: The FGP tools for teachers

The FGP provided tools for teachers to use the FGP systems, such as personal profiles, weekly plans, lesson preparation and monitoring student absence. Other tools within FGP policy aim to enhance learning, including provision for electronic educational activities and duties, electronic tests, smart classes, discussion rooms, interactive content and communication.

Unfortunately, the phase three activation expectations of FGP were not met because obstacles prevented the project from being implemented in all Saudi Arabia schools. The project required the provision of smart devices to all students and teachers, while at the time (2020) only teachers were provided with laptops and only in some schools, and students relied on their personal devices. Therefore, most schools were not technologically prepared

to activate the project. Moreover, activating the third phase of the project coincided with the Covid-19 pandemic in 2020, which forced the closure of all schools in Saudi Arabia and the conversion of the educational system to distance learning (Al-Samiri, 2021; Oraif & Elyas, 2021). The researcher conducted this study and collected the research data during the period of the Covid-19 pandemic.

2.4 The research context – Covid-19 pandemic disruption

Activation of the third phase of the FGP was accompanied by the Covid-19 pandemic, with all Saudi Arabia schools closed and the educational process converted to distance education (Al-Samiri, 2021; Oraif & Elyas, 2021). During the period this research data collection had been planned, radical digital transition was necessitated by Covid-19, illustrated in Figure 2.5. Covid-19 meant that, as researcher, I began collecting the research data from school principals and teachers through online interviews via the Zoom application (further explained in Chapter 4). Due to the weak technical structure of the FGP, the FGP platform could not withstand the huge numbers of users, including more than six million students and half a million teachers in Saudi Arabia schools. Therefore, the FGP was suspended and the educational process was transformed to the Madrasati platform (Al-Samiri, 2021; Oraif & Elyas, 2021).

This shift to the Madrasati platform was accompanied by a complaint about some continuous malfunctions in the Madrasati platform at the beginning of the Covid19 pandemic during the closure of schools and the adoption of distance learning. This was stated in an article in "Okaz" newspaper by the writer Abdul Karim Al-Dhiabi, entitled "Why did the Future Gate Project disappear from the "distance education" scene?"(Al-Dhiabi, 2020). Al-Dhiabi mentioned that the continuous malfunctions in the Madrasati platform raised many inquiries and questions about the MoE not benefiting from the FGP, which was launched by the

Ministry earlier until the beginning of the emergence of the Covid-2019 pandemic, and it was activated in a large group of schools in Saudi Arbia until the beginning of the first weeks of the Covid-2019 pandemic. In the article, Al-Dhiabi mentioned that "Okaz" newspaper sent an inquiry to the MoE's spokesperson about the reasons for neutralizing the FGP from the distance education scene, but the newspaper did not receive a response (Al-Dhiabi, 2020).
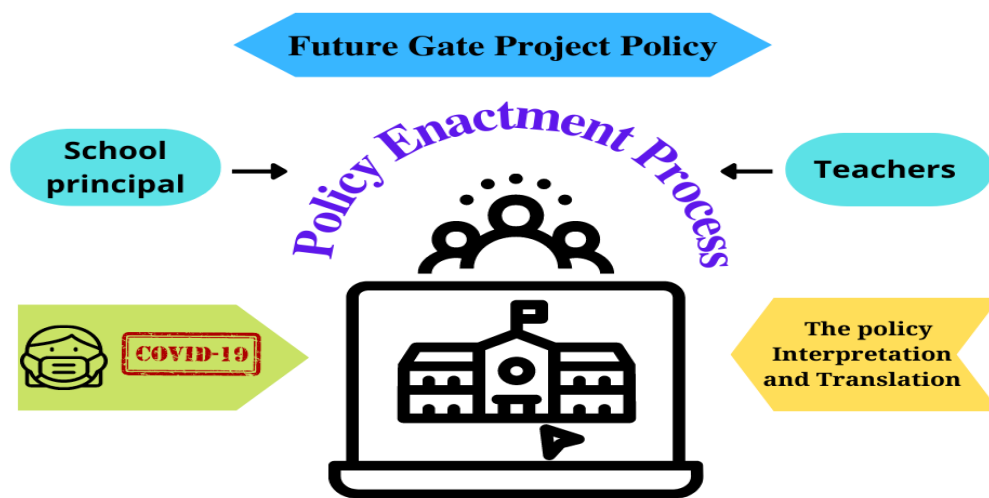
Figure 2.5: The research context

Nevertheless, suspending the FGP activation and transition to the Madrasati platform didn't make for complexities for the original dissertation question because data collection commenced before FGP was suspended. On the contrary, the updating of digital education policy during the Covid-19 pandemic provided an opportunity to examine the challenges and obstacles of FGP activation. It also provided a chance to explore the school leadership's understanding of the enactment processes of the FGP policy within the crisis period. The learnings from this situation will have the potential for a positive impact on the future continuation of uptake of technology projects, including the identification of barriers associated with the embedding phase of policy enactment.

2.5 Conclusion

Chapter 2 has provided an overview of the study setting, explaining the education system in Saudi Arabia. The chapter revealed the recent technological initiatives in Saudi Arabia schools to understand the study context. Then, FGP was explained in some detail because it relates directly to the topic of this dissertation. Finally, the chapter clarified the context of the study with the disruption of the Covid-19 pandemic, which offered an opportunity to examine the school leadership's knowledge of the FGP policy's adoption processes and identify hurdles to the embedding phase, the learnings from which could positively affect the future activation of technology policy in schools.

Chapter 3 next reviews the literature on policy enactment processes in schools. It begins with explaining the policy enactment process and the context of school leadership within that process. Then, the steps of policy enactment are outlined. Chapter 3 also covers the literature on policy enactment processes in schools in a global context and then narrows down to the local Saudi Arabia context. Relevant studies are critically discussed in the chapter to create a background for the study based in the existing research in the area of policy enactment, to substantiate the need for my research as the gap in understanding stemming from previous studies.

3   **Literature Review**

3.1   Introduction

This chapter critically analyses a wide range of past studies on the topic of school policy enactment in general and, specifically, school technology policy enactment. The review is topically organised and covers extant literature from a general to a specific perspective. Thus, it is possible to contrast and compare the other studies reviewed here from the point of view of how policies are generally enacted in schools. The chapter is topically organised in such a way that it starts with a general discussion and then narrows down the scope to the area of research interest, which is policy enactment in Saudi Arabia. The review begins with an overview of policy enactment in schools. Ball's enactment theory is generally overviewed in addition to outlining the four contextual dimensions that influence the policy enactment process including triangulation with literature on policy enactment in schools from different countries around the world. The next subtopic is a review of studies on the concept of policy enactment for technology in schools. A global coverage of the literature is reviewed under this section to determine how school technology policies are enacted in different countries. Thereafter, the chapter proceeds to discuss policy enactment for technology in Saudi schools. The following subtopic discusses the role of leadership in policy enactment in schools. Finally, a summary section also covers the research knowledge gaps is provided at the end of this chapter.

3.2 Policy enactment in schools

Policies are highly tangible, which means that they are not simply conceptual or ideological elements (Ball et al., 2012). Although policies do not always illustrate precisely what to do

and do not always dictate or set the practice, certain policies do so more than others. This is partially because most policy texts are created in respect to the "ideal school", which only exists in the imagination of politicians, civil employees and advisers, as well as in connection to fantasy contexts. The realities of schools' contexts are not always taken into consideration by policy-makers. The policy texts produced by the Ministry of Education (MoE) for education direct schools on actions to take to meet policy objectives. These policy texts must be "put into" practice – that is, translated from text to action – in connection to history and context (Ball et al., 2012). In response to certain issues, policies are implemented in relation to material circumstances and using a range of resources. New and old policies are compared to and contrasted with the types of responsibilities, values and experiences already in place through "a set of subjective interpretational dynamics" (Ball et al., 2012, p. 21). Therefore, policies need to undergo the process of enactment by policy actors to set precedence for implementation.

According to Shaheen (2021), research on policy analysis has two theoretical strands. The first strand is policy-centric and focuses mostly on the top-down implementation of policies. Policy implementation research is grounded on a positivist worldview, which holds that reality is objective, distinct, and outside of the self (Creswell & Poth, 2018). From that philosophical vantage point, policy implementation experts describe the policy as a written document that conveys a judgement called for by the formal government, often as a solution to an issue (Ball et al., 2012). As an extension, the government may be seen as the primary authoritarian actor, and those in charge of carrying out the policies are only seen as a homogenous group of agents who need to read, comprehend, and adhere to the policy as it is presented by the government (Ball et al., 2012). Therefore, the objectives of policy implementation research are often focussed on assessing a policy's implementation success, the resulting change in behaviour, and comprehend the obstacles to and drivers of successful

implementation to create a model that is effective for implementing policy. This approach to policy analysis focusing on policy implementation has been conducted in the majority of policy analyses studies pertaining to education technology projects in Saudi Arabia schools (e.g. Al-Faleh, 2012; Albalawi, 2021; Alharbi, 2019; Alyami, 2014).

The second strand widely covered in policy analysis research is policy enactment theory (Ball et al., 2012). It is the primary theory through which this study will establish an understanding of how policies are enacted in Saudi Arabia schools. Thus, defining the term "enactment" is essential for contextualisation in this study. Policy enactment is "a process of social, cultural and emotional construction and interpretation – and not all of these processes are reported or interrogated in outcomes-driven studies of policy implementation" (Maguire et al., 2015, p. 486). Ball et al. (2012) described the concept of enactments:

> Enactments are collective and collaborative, not just in the warm fuzzy sense of teamwork, but also in the interaction and inter-connection between diverse actors, texts, talk, technology, and objects (artefacts) that constitute ongoing responses to policy, sometimes durable, sometimes fragile, within networks and chains. Policy enactment is a dynamic and non-linear aspect of the whole complex that makes up the policy process, of which policy in school is just one part. (p. 3)

Ball and colleagues are describing a framework of policy enactments that considers a set of objective conditions in relation to a set of subjective "interpretational" dynamics. Ball et al. (2012) suggests that the concept of enactment is based on the presumptions that policies typically do not tell you what to do, that they often narrow or alter the options available for choosing what to do and that they often establish specific goals or outcomes. Thus, putting policies into practice can be an innovative, sophisticated and challenging process (Ball et al., 2012).

According to Ball et al. (2011a), policy enactment refers to the double process of policy interpretation and translation by different actors in different situations or practices. In the

first process of interpretation, actors read and make sense of policy texts while the second process of translation entails re-reading of policy, accompanied by other practices, including plans, meetings and classroom lessons, among others (Ball et al., 2012). The adoption of these practices in the three Saudi schools is of great interest to the current study.

Policy enactment theory (contextual dimensions)

Despite how similar schools may initially appear to be, context is a mediating factor in the policy enactment work done in schools, and it is unique to each one (Ball et al., 2012). The theory of policy enactment by Ball et al. (2012) examines the role of context within four contextual dimensions in shaping policy enactments, including situated contexts, professional cultures, and material and external contexts. Developing an understanding of these contexts is essential for developing a lens for the enactment of school technology policy. These dimensions are linked and may overlap, as shown in Figure 3.1.
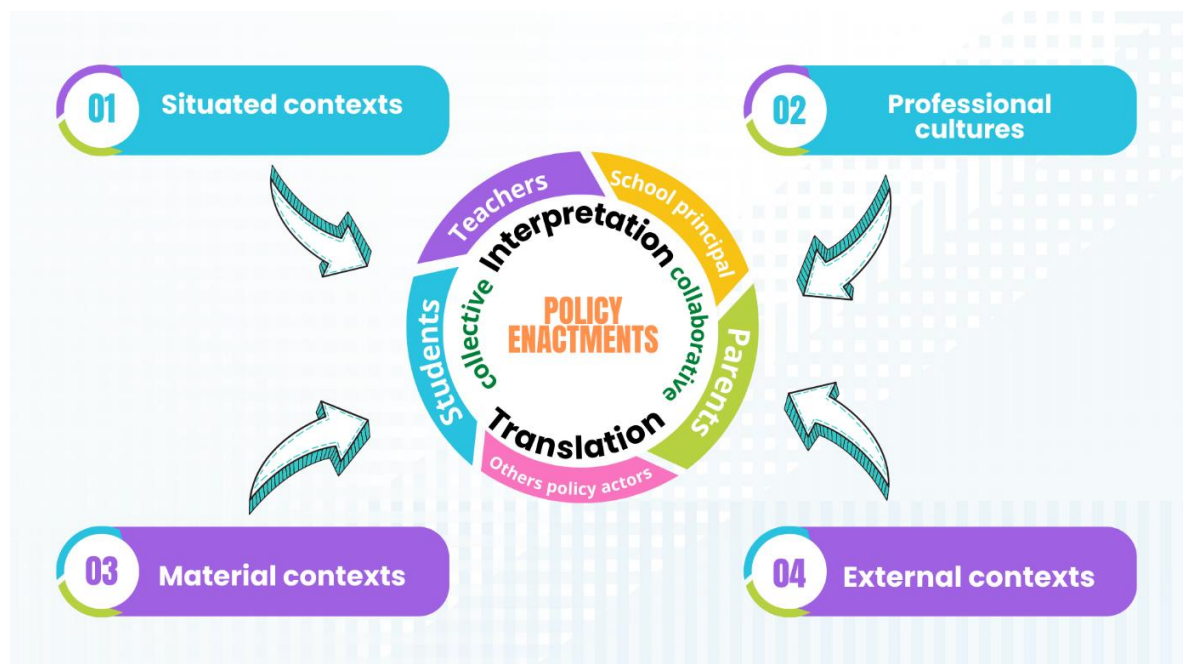

Figure 3.1 Policy enactment theory by Ball et al. (2012)

Situated contexts

The concept of context has been widely referenced in the education policy literature with the focus placed on enactment but not implementation (Ball et al., 2012). Context is situated as an analytic tool to enhance the understanding of policy enactment process to enable actors to decipher the complex policy enactment approaches applied in schools (Ball et al., 2012). The foundation of much policy enactment research is a critical theory worldview that reality is multidimensional and situated in diverse contexts (political, social and cultural). Ball et al. (2012) offers the following in regard to the school context:

> Schools are not of a piece. They are precarious networks of different and overlapping groups of people, artefacts and practices. Schools are made up of collections of different teachers, managers, bursars, teaching assistants, mentors, administrators, students, parents, governors and others, who inhabit various ways of being with different forms of "training", discursive histories, epistemological world views and "professional" commitments ... There is a social context and a materiality to policy (pp. 144,145).

The above quote speaks to another statement of school context as "a mediating factor in the policy enactment work done in schools – and it is unique to each school, however similar they may initially seem to be" (Ball et al., 2012, p. 40). Therefore, a critical theory of policy enactment can be seen to suppose that schools are impacted by their context, including staff profiles, intake and parental expectations, in addition to more tangible factors like the school's facilities, building and surroundings.

This phenomenon is common in school policy enactment process in regional, rural and remote Australia, where geographic disadvantage has been a concern to policy-makers (Herbert, 2020). According to Herbert (2020), context should be highly considered when enacting school policies in such a way that it is customised to places, and community participation should be considered. The participation of communities as key policy stakeholders through the actualities of the schools' contexts is important (Ball et al., 2011a; Barrera, 2013). However, policy contextualisation has led to challenges in enacting policies in Australia where it has been established that local conditions and contexts may lead schools

to resist some of the policy changes, especially when the policy provisions are narrow and deviate from the school's contextual factors (Heffernan, 2018). Similarly, in Brazil, quality assurance and evaluation policies have been criticised because the "external character of the assessments renders them de-contextualised with regards to the school characteristics, issues and demands, and concerning the background of the actors involved in those assessments" (Candido, 2020, p. 137). This then shows that situated contexts are essential in localising policy enactment even though the study does not entirely question the extent to which the intricate relationship between the actors' characteristics and school characteristics interplay.

Professional cultures

Professional culture entails subjective attributes such as values, commitments and experiences, and policy management in schools (Ball et al., 2012). The basic implication of this dimension is that policy enactment takes place within, and is influenced by, various factors directly attributed to the policy actors. Whether the subjective factors have an impact on the policy enactment process in schools, as compared to other contexts, is still undeveloped in the existing literature. Despite the limited information on how the policies of the New School Model (NSM) were implemented across public schools in Abu Dhabi, the existing evidence indicates that the United Arab Emirates (UAE) is characterised by strong religious, political and cultural contexts leading to challenges in the implementation of curriculum policies (Nuzhat, 2021). This means that policy enactment should be consistent with the religious and cultural beliefs surrounding individuals and schools, as also articulated by Ball et al. (2012). In England, school policies are mainly enacted in accordance with exhortative or developmental policies (Wilkinson et al., 2021). As expected, Wilkinson et al. (2021) adopted the policy enactment theory because it was focused on distinct institutional contexts with specific cultures and histories, within the wider political and educational environment and implemented by teachers characterised by diverse professional

values and beliefs (Ball et al., 2011a). However, there is a limitation of studies published recently on how the interplay among these factors either facilitates or inhibits school technology policy enactment in Saudi Arabia.

Material contexts

Material contexts (e.g., staffing, budget, buildings, technology and infrastructure) are necessary, especially in the implementation of school technology (Ball et al., 2012). Evidently, provision of these tangible resources has the capability of fast-tracking the policy enactment process in schools. In the UAE, the Abu Dhabi Education Council (ADEC) started a reform agenda in 2013 targeting public schools across Abu Dhabi (Olarte, 2015). The NSM was initiated to enhance the use of technology in classrooms by providing technological infrastructure for use by students, teachers, parents and administrators (Parkman et al., 2018). Material context is also distinguished by a commitment to stakeholder engagement, evidence-based decision-making, clear communication and implementation strategies, continual monitoring and evaluation, and creative practices that encourage deeper learning and student achievement (Dou et al., 2017; Romanowski & Du, 2022). Hence, it is intuitive to assert that the availability of materials contributes positively to policy enactment in schools.

External contexts

The final contextual dimension entails external factors (e.g., degree and quality of local authority (LA) support); pressures and expectations from broader policy contexts, such as Ofsted ratings and league table positions; and legal requirements and responsibilities (Ball et al., 2012). Wilkinson et al. (2021) outlined the role of the political environment in the implementation of the policy setting, which amounts to the contextual dimension of external factors (Ball et al., 2012). For this reason, external contexts may lead to differences in policy enactment from one context to another. Evidence shows that the political climate that

impacts education policy enactment in England differs from that in Wales, where its diversification is highly dependent on its sociocultural geography as opposed to that of England, where the education system is viewed as a quasi-market (Power & Taylor, 2021). Additionally, in Wales, local authorities are involved in the education policy enactment process, which has led to a debate on the extent to which such bureaucratic procedures negatively affect the efficiency of implementing school policies (Power & Taylor, 2021). Moreover, it is posited that the micro-politics within English schools may be overturned by the need to comply with a national policy framework, leading to a reduction of the autonomy of school principals and teachers in making decisions at the school level (Innes, 2022). However, it is important to note that the extent to which the impact of these external contexts will be felt by the implementing actors or schools is entirely dependent on the culture within the schools and the policy that the actors operate.

Policy centralisation and decentralisation are other key external contextual factors because they are informed by politics. The Arab world's perception of decentralisation is that comprehension and execution of decentralisation are frequently culturally limited (Akkary, 2014; Romanowski & Du, 2022). Education reforms were eminent in Qatar in the recent past, as evidenced by the introduction and decentralisation of the K–12 system. The changes were palatable as the decentralisation approach intended to deviate from traditional hierarchical, rigid and bureaucratic strategies applied by the MoE (MacLeod & Abou-El-Kheir, 2016). To achieve this positive outcome, Qatar shifted from the bureaucratic policy enactment approach and embraced autonomy, freedom of choice and accountability to enhance the attainment of the reform's goals (Alkhater, 2016; MacLeod & Abou-El-Kheir, 2016; Romanowski & Du, 2022). Allowing independence in policy enactment was found to positively impact professional development, accountability and learners' performance in the

Qatari schools. This then reflects the relevance of contextualisation of school policies (Ball et al., 2011a).

As far as contextualisation is concerned, the Qatari government tends to influence the implementation of these reforms right from the principal selection process, which is also consistent with the arguments by Ball et al. (2012) on the relevance of contextual dimensions in policy enactment, which include professional cultures (policy management) and material context (staffing). Qualitative interviews were conducted in a previous study involving policy-makers, school principals and teachers in Qatar, finding that the selection process should lead to recruitment of principals who can manage issues of culture, are instructional leaders and are in possession of advanced decision-making skills (Romanowski et al., 2020). The findings of Romanowski et al. (2020) indicate that, by decentralising policy enactment to facilitate educational reforms in Qatar, the MoE understands that school principals play a key role (contextual) in school policy enactment and, hence, only the most competent individuals should be recruited to lead the reform agenda because school principals, as school leaders, should have a better understanding of the needs of their particular schools (Clifford, 2010; Dou et al., 2017). Despite the advantages of the reform's principle of autonomy in the Qatar education system, there were challenges, such as resistance to change, that hindered the reform success (Romanowski & Du, 2022). The decentralised reform implementation was centralised (top down) where principals, teachers and parents were not engaged or actively involved in the change, resulting in a reaction against the political will that pushed for the reform. In practice, the implementation of the decentralisation strategy in Qatar revealed that school principals and teachers are obliged to carry out tasks and are accountable for enforcing a set of predetermined norms that, in effect, contradict the decentralised philosophy. What needs to be known is the applicability and outcome of this contextual dimension in the Saudi Arabia schools.

Policy actors

Policy enactment research assumes that policies are always interpreted and translated in a perpetual process of change or becoming (Ball et al., 2012; Ball et al., 2011a). Ball and colleagues (2012) discuss the "policy work" of different policy actors, or policy positions, who are involved in making meaning of and constructing responses to policy. They identified eight types of policy actors and related different roles that these actors play when enacting policy: narrators, entrepreneurs, outsiders, transactors, enthusiasts, translators, critics and receivers (Ball et al., 2012), as set out in Table 3.1.

Table 3.1: Policy actors and 'policy work' adapted from (Ball et al., 2012).

This table has been removed due to copyright restriction. Available online from https://doi.org/10.4324/9780203153185

Policy enactment is seen as a continuous, nonlinear process in which many policy actors participate in creative processes of interpretation and recontextualisation to convert the abstractions of policy ideas into contextualised practices (Maguire et al., 2015; Shaheen, 2022). It is continuous because the work of policy actors will shift from reactive to proactive within the enactment process. It is non-linear in the sense that the enactment process will be often impacted by some aspects that will accelerate the process while other aspects will decelerate it (Shaheen, 2020). The school policy actors, including principals and teachers, play important roles in the enactment of policies within collective and collaborative school leadership practices (Ball et al., 2012; Robinson et al., 2008). A critical theory of policy enactment views front-line workers such as teachers and school principals as diverse policy actors who play an essential role in the policy enactment process (Shaheen, 2022).

The role of policy actors in the enactment of school policies has also been covered by other researchers. For instance, the process of policy enactment in the Maldives depends on the willingness of school leaders to take an active role in leading the process (Mohamed, 2021).

It is evident that, at the local context, school leaders may either accept or reject policies developed from the top (Mohamed, 2021). In such cases, the principals are referred to as narrators because they play roles such as information filtering, interpreting top-down policies and communicating with the other actors regarding attained meaning (Ball et al., 2012). A qualitative case study by Bentham (2020), investigating the policy provision of English as an additional language in a primary school in England, came up with results depicting the role of different policy actors in the enactment process. The study found that the school embraced the "macro-adoptive" approaches that incorporated EAL learners, while enabling teachers to personally enact unwritten approaches (Bentham, 2020). These latest findings attempt to deviate from the normal practice where "mainstream" approaches to policy enactment have to be followed in tandem with adherence to the statutory national curriculum (Anderson et al., 2016; Leung, 2016). As a result, teachers are justified to retrieve meaning from the "mainstream" policies as an approach of localising their enactment at a macro level.

The role of teachers in the school policy process has been targeted in the literature. In the account of policy enactment in schools, teachers can be referred to as being both centred and decentred as policy actors and policy subjects (Ball et al., 2011b). In relation to the above statement, teachers are policy mediation and enactment agents as they can talk about it and reflect and evaluate practice. According to Ball et al. (2011b), teachers play a key role in the interpretation and enactment of new policies in their respective schools, which means that they should work alongside their school leaders to achieve the same objectives. When empowered, teachers have the capability to interpret, translate and enact curriculum policy (Scanlon et al., 2023). In their roles, teachers are tasked with questioning, debating, and unpacking policy for purposes of shifting the contents from abstractions to school contexts and determining how the reform agenda can be enacted within the pedagogy or curriculum

(Lambert & Penney, 2020). For these reasons, teachers are required to position themselves and shape policy directions in their respective schools.

The involvement of teachers as key policy actors in the enactment of school policies has been documented in the literature. Similar observations were made in school policy enactment in England during the Covid-19 pandemic, where the need to act with speed was prioritised by the teachers and the students' needs and local circumstances referred to as the key contextual factors informing the urgency for policy enactment (Bradbury et al., 2022). In Norwegian schools, it is the responsibility of the teachers to adopt a teaching technique that meets the learners' needs (Elstad, 2016). Therefore, based on these findings, teachers playing the role of "activator" is seen to have a greater impact on learning compared with the role of teachers as "facilitator" (Hattie, 2009). Thus, if the same approach is applied on the policy enactment process, then it is highly possible to attain the desired outcomes in the whole process of school technology policy enactment.

Further, the effectiveness of policy enactment in schools is highly dependent on the commitment and ability of school leaders and teachers to understand and integrate the policy texts (Falabella, 2020). Heffernan (2018) outlines the feasibility of teachers and school principals defying the enactment of "narrow" national policies that allegedly contradict the school's contextual factors. However, it is not possible to imagine the same in contexts where policies are inclined towards quality improvement, which sets the environment for mandatory enactment. This then evokes the questions of the extent to which schools can practise autonomy in relation to whether or not to enact government-initiated policies (MacLeod & Abou-El-Kheir, 2016). In-depth interviews revealed that the environmental policy enactment process in Japanese schools only focuses on a narrow implementation of the environmental education that mainly covers the acquisition of knowledge at the expense

of other important factors such as attitudes and the acquisition of practical skills (Glackin & Greer, 2021). Further, the approaches that the top education players can implement to create a level playing field and an environment where diversity in school contexts can be promoted have not been addressed in the literature.

3.3 Policy enactment for technology in schools

Technology policy enactment is dynamic and, thus, there are different ways in which schools in different contexts adopt the processes (Dorner et al., 2022). It implies that technology policies are flexible and subject to ongoing adaptation and adjustment depending on the specific circumstances or context. Therefore, schools have the flexibility to adopt different approaches or processes in implementing technology policies, depending on their particular requirements needs, resources, and local conditions (Ball et al., 2012). The extant literature has covered technology policy enactment in different countries, including Sweden (Wikstrom et al., 2022), United States (Dorner et al., 2022; Shaheen, 2022), Norway (Elstad, 2016), and Australia (Brown, 2021)..

An example of technology policy enactment relates to student use of smartphones. The use of smartphones in the educational context is contested and heavily debated in the media. Wikstrom et al. (2022) focuses on technology policy enactment processes to establish a technological environment leading to the use of smartphones in Swedish schools. The interesting aspect of the study was on balancing the competing agenda of using smartphones as a learning tool in the classroom and addressing the potential threat that can be posed by this technology, especially from the perspective of social and disciplinary order (Wikstrom et al., 2022). The assertion by Wikstrom et al. (2022) is consistent with the argument by the previous studies indicating that, despite personal smartphones being essential learning tools in digitised classrooms, they are potentially distractive and can cause disruption among

learners (Hassoun, 2015; Ott, 2017; Ott et al., 2018). However, results on the impact of using smartphones in classrooms are contradictory. The opponents of this technology argue that smartphones have a negative impact on learners' performance (Amez et al., 2023; Beland & Murphy, 2016; Lee et al., 2021) while proponents argue that smartphones positively impact academic performance (Kuznekoff et al., 2015). It remains problematic to determine causal relationships between smartphone use in classrooms and academic performance, despite arguments being presented on whether positive or negative outcomes arise from the use of smartphones in the classroom (Baert et al., 2020).

According to Wikstrom et al. (2022), unlike the teachers, who were less optimistic about the use of the technology, head teachers acknowledged that the use of smartphones in classrooms, though contentious, is not disruptive, in their personal belief. This means that head teachers were not swayed by the media discourse, as they believed that using smartphones in classrooms disrupted social interactions among learners and between learners and the teachers despite the relevance of such interactions in school contexts. Thus, in policy environments where competing agenda are visible, it is important to adopt collaborative approaches to enhance the policy enactment process because it enables different stakeholders to contribute to the policy agenda. However, the Wikstrom et al. (2022) study does not exhaustively detail illustration of the nature and components of the interaction that are required to bring all policy actors in agreement with what they believe will lead to the most desired outcomes.

Dorner et al. (2022) found that educational policy enactment is dynamic and interactive, especially when it goes to the extent of involving families as stakeholders in establishing remote learning in schools. In their study, during the Covid-19 period, parents were involved in making decisions on whether the district's schools should adopt virtual schooling with teachers, in-person schooling or self-paced virtual schooling, which was indicative of the

role of communication and involvement of parents in making decisions on the use of technology (Dorner et al., 2022). Promotion of collaboration among families and teachers was successful in supporting the students in the use of new technology. The debate arising from the study is the extent to which a policy functions when it originates from a single person and adopted in a linear manner as opposed to being interactive. However, Dorner et al. (2022) did not establish what could have happened in situations where the available structures and resources are not sufficient to reach out to families in their homes, as opposed to working on the policy agenda from within the school locales.

The involvement of Local Education Agencies (LEAs) in technology policy enactment is another aspect of the school policy enactment debate that has been acknowledged in the literature. For instance, Shaheen (2022) questioned the effectiveness and the extent to which LEAs are enacting technology accessibility policies to facilitate the participation of disabled students in learning. In their quest to establish 100 per cent accessibility of learning through technology, Shaheen (2022) found that the LEA stakeholders faced opposition from local interests. To facilitate the establishment of the 100 per cent accessibility theory, Shaheen (2022) argued that collaboration is required to offer support and develop resources that will enable LEAs to manoeuvre through the opposing interests and attain their objective of ensuring 100 per cent accessibility. However, the question that remained unanswered is on the specific roles that different stakeholders should play, especially in a centralised system of policy-making.

Shaheen's (2022) arguments on the role of LEAs in promoting technology policy enactment in the United States are consistent with Elstad's (2016) findings regarding the competing roles of national education policy and local authorities' policies in Norway. According to Elstad (2016), the national education policy is constant for all schools in Norway; however, differences exist in the enactment approaches utilised by the local authorities in exercising

their policy enactment roles. This means that local authorities are autonomous in their roles of enacting policies. However, despite this autonomy, they cannot sanction teachers who fail to use ICT in teaching as outlined in the technology policy (Elstad, 2016). Therefore, the question that arises is why policies should be enacted and then its uptake by primary policy actors such as teachers not ensured due to the absence of accountability measures.

Learners in the Norwegian schools in Elstad's study were fast-tracked and involved in the process of enacting educational technology policies, as it was made mandatory from 2007 that all upper-secondary school pupils should be in possession of laptops (Elstad, 2016). The requirement that students should possess a laptop was progressive as it led to the creation of an enabling environment where the implementation of school technology could be facilitated and made less challenging to policy actors such as teachers, who are the main activators and facilitators of school technologies. However, there is limited evidence in the contemporary literature showcasing the distinctive features of these teacher roles and the extent to which they can impact technology policy enactment in diverse schools.

Creation of usable technologies and facilitation of their adoption in schools is another policy enactment feature. For example, Blumenfeld et al. (2000) established approaches through which schools can enact innovation policies in accordance with organisational culture, school cultures, and policy and management structures. To ensure competency in innovation policy enactment in urban schools, Blumenfeld et al. (2000) acknowledged the significance of professional development by training teachers on the use of the new innovations. Professional development was adopted as an avenue of policy enactment to enhance the teachers' knowledge, attitudes and beliefs about science and teaching using technology (Fishman et al., 2000). Through the process of professional development, various milestones were attained, including collaborative construction of understanding, reflection on practice and material adaptation (Blumenfeld et al., 2000). The assumption was that, once the

teachers, who are key policy actors (Ball et al., 2012), were professionally equipped, then the technology policy enactment process would be flawless and less complicated. However, despite reporting the positive impact of training the actors being achievable, Blumenfeld et al. (2000) did not address the impact of change resistance, by the same teachers, to being required to undertake professional development. Moreover, the arising knowledge gap in reference to Blumenfeld et al. (2000) is on the implications of the involvement of local area authorities in controlling and funding the teacher development interventions. As a result of this knowledge gap, discrepancies are likely to arise in teacher development, especially when the local area authorities are autonomous, leading to inconsistencies in policy enactment in different schools.

Accountability is listed by Brown (2021) as an attribute of school digital technologies policy agenda in Australia. In playing their policy enactment roles, school principals have an impact in transmitting higher level policies to local school policies, which then forces them to be accountable despite the likelihood of facing risks such as change resistance. The role of school principals in policy enactment may seem to be smooth; however, that is not the case due to a lack of symmetry between the principals' functions of policy reception, enactment and evaluation (Ball et al., 2011a). Hence, context still exists in deciphering this synergy due to the complexity and dynamic change influenced by various competing contextual priorities and pressures. More information is needed on the challenges presented for Australian school principals and policy-makers due to multifarious and ubiquitous approaches of engagement with digital technologies.

Summarising this recent literature on technology policy enactment research, the main findings to note are that the policy enactment process is not uniform across board (i.e. different countries and cultures), stakeholders such as school leaders, LEAs, parents, students and teachers should work collaboratively in the policy enactment process, schools

should provide the required infrastructure, and finally, to some extent, there is variation in autonomy conferred on the key policy actors and how it impacts the policy enactment process. Ultimately, empowering the key policy actors such as teachers has the potential to positively influence the school technology policy enactment process.

3.4 Policy enactment for technology in Saudi Arabia schools

In the Saudi context, studies have investigated the progress of previous technology projects in relation to policy implementation (Alenezi, 2017; Alyami, 2014; Oyaid, 2009) explored the impact of educational policy development on practice in Tatweer schools by looking at innovations and their levels of autonomy. In other studies by Albugami and Ahmed (2015), the factors that affect the implementation of technology in Saudi high schools were: the absence of an ICT strategy and policy, access to ICT resources and proper infrastructure, teachers' roles, staff training, management roles, technical maintenance and support, and negative attitudes, behaviour and beliefs toward ICT. The studies also concluded that there were problems associated with the introduction of technological projects in schools (Albugami & Ahmed, 2015). Therefore, the education system needs to develop an effective strategy for activating technological projects.

The vision of educational policy in Saudi Arabia is to provide a distinguished, high-quality education with qualified educational cadres to build proud citizens and global competitors (Ministry of Education, 2023e). Achieving this will be through making education accessible to all and raising the quality of its processes and outputs, developing an educational environment that stimulates creativity and innovation to meet the requirements of development, improving the education system governance, developing the skills and capabilities of its employees, and providing learners with the necessary values and skills to become good citizens, aware of their responsibilities towards the family, society and

homeland (Ministry of Education, 2023e). The educational policy is controlled and administered by the Saudi Arabia government with the Supreme Committee (composed of the King, minister for education and a few other ministers) having the sole authority to draw up educational policies (Alreshidi, 2016; OECD, 2020). Hence, it means that the process is wholly bureaucratic, as policy actors at the lowest level of decision-making cannot directly participate without the government's involvement.

In Saudi Arabia, the education reforms are targeting the creation of a society that is readily integrated into the labour market as part of the government's Vision 2030 (Alharthi, 2018). The education system in the country is multi-layered, with both private and public schools co-existing. Principals, who are overseen by the MoE, are the heads of private and government schools and their role is to implement the curriculum as directed by the government (Deraney & Abdelsalam, 2012). This bureaucratic relationship is indicative of the origin of school policies and the key actors involved in its enactment in Saudi Arabia schools.

To achieve Vision 2030 in a seamless manner, the Saudi Arabia government has invested in ICT for purposes of enhancing teaching and learning processes. This is part of the curriculum reforms targeting grades K–12, where student-centred approaches and enquiry-based learning are prioritised (Albadi et al., 2019). However, the process of enacting the school technology policies need further elaboration. It is evident that various issues should be initially addressed to inform the policy enactment process. For instance, availability of resources is a contextual dimension within policy enactment theory that affects the school technology policy enactment process (Ball et al., 2012; Ball et al., 2011a). A sequential mixed-methods study involving Saudi Arabia teachers revealed various barriers to ICT implementation, including unavailability of ICT policy targeting planning, monitoring and motivation, lack of ICT resources, lack of technical support, lack of time and limited ICT

knowledge among the users (Al Harbi, 2014). To add to this, another study found that the Saudi Arabia culture is a facilitating factor in the implementation of ICT policies; however, the outlined barriers were inadequate planning and resources, lack of leadership for coordination and management purposes, scarcity of ICT policy planning, lack of support, and bureaucracy (Al Mofarreh, 2016). This is an indication that, for the schools to successfully enact technology policies, there is a need to prioritise resource mobilisation and train the users of ICT tools, which are prerequisite material contexts for policy enactment (Ball et al., 2012). Specifically, the previous literature affirms that a lack of ICT knowledge among teachers, who are key actors in policy enactment, is a critical barrier in the enactment of technology-oriented school policies (Bingimlas, 2009; Chen et al., 2009; Hew & Brush, 2007). However, the most recent literature is needed to determine the extent to which changes have occurred in relation to knowledge development among teachers to improve their competency in using ICT in classrooms. A relationship between the extent of technological knowledge and skills are congruent with the capability of teachers to readily use a new teaching or learning technology.

Teachers in Saudi Arabia have been relentlessly involved in the enactment of school technology policies as being among the key policy actors (Alharbi, 2019). Nevertheless, determining their interaction with the policies is equally important as a matter of understanding the extent to which they play their roles as the key policy actors in school contexts (Lambert & Penney, 2020; Scanlon et al., 2023). Research has revealed that school policies have a bigger influence on the teachers' ICT use compared with the MoE policy, which they are not aware of, or its complexity is beyond their capability to implement (Oyaid, 2009). The basic meaning that can be derived from this finding is that contextual dimensions touching on culture, school locales and history impact the acceptance and understanding of policy enactment among Saudi Arabia teachers (Ball et al., 2012). The

same study found that teachers anticipated future changes where they would be facilitators and advisers in policy enactment (Oyaid, 2009). However, whether these anticipated roles have the potential to facilitate school technology policy enactment by the teachers has not been fully developed by recent research.

The concept of bureaucracy as a barrier to the enactment of ICT policies in Saudi Arabia schools is an interesting observation covered in the extant literature (Al-Maini, 2013; Al Mofarreh, 2016). This happens despite the policy implementation processes being highly dependent on how effective the implementing officials are. The findings by Al Mofarreh (2016) showed that teachers cannot negotiate over any policy implementation concern within their schools that lead to an obstruction of the radical changes, as key policy actors cannot make personal contributions to the policy enactment process. However, the Alyami (2014) study showed that Tatweer schools conducted self-evaluation and built their plan based on their arising needs compared with the other schools that obtained the plan directly from the Ministry. Tatweer enactment policies differed from the non-Tatweer schools' policy enactment processes, as the former enjoyed autonomy in self-evaluation and satisfaction of their individualised needs. This meant that they were transformed from centralised to semi-decentralised schools in terms of decision-making and management of school programs. However, despite these findings, there is a lack of information portraying the extent to which the non-Tatweer schools' students' performance and the overall change impacted by technology on the enactment of non-technology policies compared to Tatweer schools. Research needs to be conducted to determine the differences in the impact of school policy actors' autonomy, such as principals and teachers in decentralised and semi-decentralised plans. Thus, contextualisation of the policy enactment process to meet the individualised needs of schools at the local level seems to be a challenge in Saudi Arabia.

3.5 Leadership in school policy enactment

Leadership is necessary in all aspects of policy enactment (Day et al., 2016; Ni et al., 2018). Most leadership definitions recognise that leadership is a process of influence. It is a social influence process of exerting intentional influence by an individual or a group over others, in order to organise the activities and relationships within a group or an organisation (Bush & Glover, 2003). School leadership is a process of social influence leading a school, including its policies, programs and resources, impacting on student learning outcomes, as well as on the development and wellbeing of teachers and staff members (Bush & Glover, 2014). This concept of school leadership consists of three domains of leadership practice: setting directions: building relationships and developing people; and developing the organisation to support desired practices (Leithwood & Jantzi, 2006; Leithwood et al., 2020). With availability of resources at their disposal, the role of leaders such as school principals is to follow the set guidelines of redesigning the organisation and motivating people to adopt the desired changes (Sun & Leithwood, 2015). However, according to Klar and Brewer (2013), the specific context of the school determines the above mentioned leadership tasks due to differences in behaviours among subjects and actors. Furthermore, there may be the desire to adopt technological change in schools; hence, implying that the leadership should manage the change (Day et al., 2016). The implication is that the success of technology acceptance and use in schools is solely dependent on the leadership interventions that are adopted by school leaders.

School leadership plays a critical role in the enactment of policies in schools, developing and implementing policies via establishing a clear vision and mission for their school that aligns with the district and state's educational goals (Robinson et al., 2008). Effective school leaders in the policy enactment process focus on building relationships and fostering a positive school culture that includes creating opportunities for collaboration and shared

decision-making, promoting teacher and staff development, and providing opportunities for student engagement and leadership (Fullan et al., 2014; Hallinger & Heck, 2009 ; Leithwood et al., 2020; Raman & Thannimalai, 2019). School leadership in the embedding of technology project policy involves not only school principals but also other school members such as teachers (Raman & Thannimalai, 2019). The concept of school leadership gives priority to teachers in the process of policy implementation (Raman et al., 2014). Thus, there is a strong demand to distribute the roles of leadership within schools (Alenezi, 2017). Leadership can be delegated to other teachers, such as the coordinators of digital transformation, promoting their self-development towards teaching excellence.

In the context of Norwegian schools, Vennebo (2017) pursued an investigation to understand the role of leadership in policy enactment. The study adopted the cultural-history activity theory to investigate leadership as enactment that aids the direction that change should take and found that leadership, in such situations, is not a preserve of any of the actors involved in the enactment process (Vennebo, 2017). The study's intentions radiated from the previous studies, which referred to leadership as a distributive practice that arises from groups or teams (Fullan, 2005; Hallinger & Heck, 2009 ; Harris, 2009). Interestingly, it becomes evident that leadership is challenged as not being a preserve for a single leader who enables policy change (Harris, 2013). However, this argument is not entirely clarified in past literature because it is common knowledge in school policy enactment literature that school principals exercise individual powers for the purpose of creating an environment to facilitate the leadership capacity of the staff (Fullan et al., 2005; Harris, 2008). This means that the school leadership can be shared among school principals and other teachers within the school context to facilitate the implementation and attainment of change (Hallinger & Heck, 2009). Nevertheless, based on these discoveries, understanding the interplay brought about by multiple leaders within the same school is essential in developing an understanding of

leadership practice. Thus, there is limited information on why school principals should not be the main custodians of policy enactment leadership in schools, even when they are in possession of "authority" to exercise their leadership roles. Additionally, there is no evidence indicating the extent to which the leadership interplay in Norwegian schools can affect the enactment of school technology policies. Thus, there is a need to update the knowledge base in the literature in relation to this particular issue.

Another qualitative study was conducted by Brown (2021), who interviewed school principals and an assistant principal to investigate their understanding of digital technology policies in Australian schools. The paper presents a positive contribution to theoretical understanding of school principals' agency among policy actors. The theme that emerged in Brown (2021) is the tension expressed by principals in relation to compliance to national policies and enacting policies associated with the contextual environments of their schools. To some extent, this finding assigns principals to the roles of policy narrators and transactors. Another key finding arising from the study was the agreement among the participants that schools were granted high-end latitude to develop their own digital technology policies in relation to the generic plan provided by the Department of Education (Brown, 2021). Thus, autonomy in policy enactment by the policy actors was evident.

3.6 Conclusion

The reviewed literature outlines the contextual dimensions that impact the policy enactment process, school policy enactment processes around the globe to depict the essence of policy centralisation and decentralisation, policy enactment for school technology in Saudi Arabia, policy actors, leadership for change in policy enactment, and social contextualisation of the policy enactment process. The literature review reveals that the policy enactment process is complex it does not expressly align with the provisions of the policy enactment theory by

Ball et al. (2012). The most important take-home assertion is that the policy enactment process is highly dependent on the four contextual dimensions, which also present the likely enablers and barriers to school technology policy enactment processes especially in Saudi Arabia. In Saudi Arabia, centralisation of decision-making is rife, with the MoE having authority while the powers granted to school leaders are limited. Therefore, enactment of school policies and technology policies in Saudi Arabia is not done autonomously by school leaders and teachers. Despite Saudi Arabia being at the forefront in the implementation of numerous educational reforms, there is scarcity of evidence relating to their evaluation and impact on the education sector. Further, there is limited evidence in the reviewed literature on the application of the contextual dimensions by Ball et al. (2012) in understanding the school policy enactment processes in Saudi Arabia. To fill this knowledge gap, it is important to obtain detailed information from school principals and teachers to develop a better understanding of how technology policies are enacted in Saudi Arabia. The current research fills this knowledge gap by interviewing principals and teachers from Saudi Arabia schools to understand the policy enactment processes and their experiences in their respective schools.

4   Methodology

4.1 Introduction

This chapter creates a blueprint of the research processes and techniques that the researcher adopted to answer the research question and fulfil the objectives. The areas covered in the chapter are the four components proposed by Crotty (1998): (1) the epistemological aspect; (2) the theoretical perspective; (3) the choice of methodology; and (4) the research methods. This is shown in Figure 4.1.
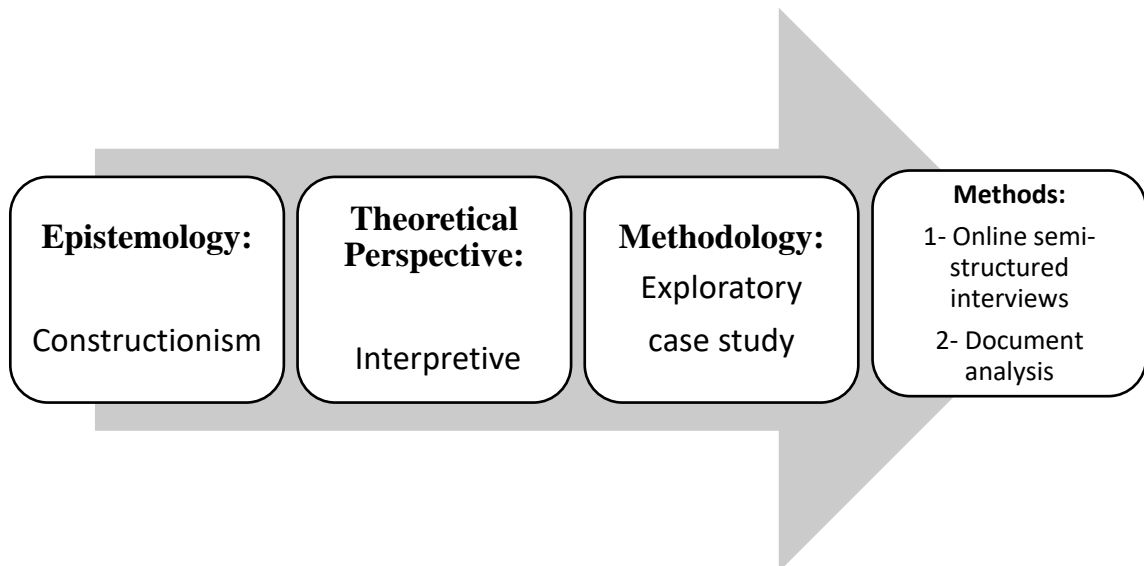
Figure 4.1: Research design using Crotty's framework (1998)

4.2 Epistemology

Epistemology is "a philosophical background for deciding what kinds of knowledge are legitimate and adequate" (Gray, 2014, p. 19). Crotty (1998) argued that epistemology can be divided into three categories: positivism (objectivism), constructionism and subjectivism. Constructionism was adopted in this research as it indicates that truth and meaning are

created by the subject's interactions with the world. Meaning is not discovered but constructed, thus, even in the same phenomenon, subjects construct their own meaning in different ways (Gray, 2014). As my study explores of leading change within the Future Gate Project (FGP) policy based on the views of some stakeholders in the three schools, including principals and teachers, constructionism was an appropriate epistemological choice for the study as the reality of technology policy enactment is the result of social interaction between people (principals and teachers) in a "moment of time and space". Thus, the reality of FGP technology policy enactment are socially constructed through routines, interpretation, and improvisation of the people involved (Crotty, 1998). With this epistemology, the theoretical perspective I employed was interpretivism (Crotty, 1998) through an exploratory case study (ECS) approach (McChesney & Aldridge, 2019; Yin, 2014) informed by Ball and colleagues' policy enactment process (Ball et al., 2012; Braun et al., 2011).

4.3 Theoretical perspective

This study used the interpretive approach as an appropriate theoretical perspective, corresponding with the epistemological position of the study to achieve its aim and answer the main research question (Crotty, 1998). Understanding the complex world of lived experience from the perspective of individuals who encounter it is the aim of interpretivist study (McChesney & Aldridge, 2019). As a result, interpretivist research is a socially created activity in which social reality is regarded as the product of processes by which social actors together negotiate the meanings of actions and situations (Crotty, 1998). Interpretivist research produces rich and contextually situated understandings rather than theories or laws that are universally applicable. This is because the information produced by interpretivist research is inextricably related to the participants and the study situation (McChesney & Aldridge, 2019).

4.4 Qualitative methodology: Exploratory case study

Qualitative methods were used in this study to enable a deeper understanding of the nature of the phenomenon of policy enactment for leading school technology change (Creswell, 2012; Roller & Lavrakas, 2015). Thus, the research employed an ECS approach of policy implementation process of technology in Saudi Arabia schools informed by policy enactment studies (Ball et al., 2012; Braun et al., 2010; Yin, 2014). An ECS approach investigates all distinct phenomena arising from the absence of detailed preliminary research related to a particular research environment (Mills et al., 2010). For instance, there is a lack of detailed preliminary research on the topic of the role of school principals and teachers in policy enactment to set grounds for implementation of technology in Saudi Arabia schools. Thus, by exploring this research area, a new phenomenon is identified, and essential outcomes realised in the process that will contribute positively to the literature base. Yin (2014) argues that an ECS is mainly concerned with answering what *and how* questions. In the current study, this is evident in the main question where the *how* of the phenomenon was explored.

Yin (2014) discussed ECS as a research design that enables a researcher to develop adequate definitions, hypotheses and frameworks for subsequent explanatory research. According to Yin (2014), the key advantage of ECS design is that it is not limited in terms of whether a study is either qualitative or quantitative. Hence, there is a higher degree of flexibility in the choice of data collection approaches. The aim of an ECS is to explore the unknown, especially where there is limited data access or when the research environment is restricted. This is what happened in this study, where it was conducted at a difficult time during the Covid-19 pandemic, where the collection method of data was online and access to information resources was limited. Further, the ECS "is a research approach that is used to generate an in-depth, multi-faceted understanding of a complex issue in its real-life context"

(Crowe et al., 2011, p. 1). The ECS is a type of research involving single or multiple case studies that can then be used to pursue further future research. Moreover, the ECS was suitable for addressing the main research question of the current study as I gained access to a small number of schools, and so determined to get close to the policy process in a specific period in these cases (the schools) (Ball et al., 2012).

4.5 Participants

The study applied purposeful sampling to select three intermediate boys schools including three principals and 12 teachers (four teachers from each school) in the Wadi Addawasser (WAD) Governorate. Two of the three schools are in urban areas and the third school is in a rural area. WAD Governorate is located in Ar-Riyadh province, which is located in the centre of Saudi Arabia (see Figure 4.2). The population of WAD Governorate is 77,363 people (Ministry of Interior, 2023) and is one of the largest agricultural areas in Saudi Arabia; thus, some students come to school from distant agricultural areas. All people have the same culture as they practise the Islamic faith, and their first language is Arabic. English is the second language, which is taught at all levels of education. Most schools are in government buildings and equipped with technology such as Learning Resource Centres (LRCs) and computers labs. Few schools are in rented buildings.

The justification for applying purposeful sampling is to ensure that the participants are selected based on their merit to participate in the study. This was appropriate for the current study because the three selected schools have activated the FGP policy on which the current study focuses. According to Creswell (2014), in purposeful sampling, the researcher selects a group of participants who are in possession of the most desired data that is of great interest to the research problem. This was applicable to both the schools and individual participants, such as school principals and teachers.

Figure 4.2: Map showing the location of Wadi Addawasser Governorate by Fahad Aldawsari,, licensed under a Creative Commons Attribution-ShareAlike 4.0 licence. Created using the Saudi Arabia location map by NordNordWest, licensed under Creative Commons Attribution-ShareAlike 3.0 DE licence and the Wadi Addawasser Governorate location map by FShbib, licensed under a Creative Commons Attribution-ShareAlike 4.0.

The study was conducted exclusively with male participants for two primary reasons. First, the community in WAD Governorate is conservative as in all Saudi Arabia, and females and males are separated throughout the education system. As a result, gaining ethical approval to work with female participants would have been a difficult procedure, especially in the time of Covid19 pandemic which was the time to collect the study data that would almost

certainly have necessitated the support of a female research assistant (Alghamdi et al., 2018). This was not practical for the current study. Second, I have previously been employed as a teacher in an intermediate male school for four years and later as a supervisor for awareness programs in male schools and for male teachers' issues. Therefore, my previous position in male schools helped me to understand the research context even more and conferred advantages of being an insider. For instance, it was easier to select the schools, engage with the principals and teachers, and understand the dynamics of the schools in achieving the implementation of the project.

Due to my previous position in WAD Governorate as an educational supervisor, which may have put the participants in an awkward position that they would feel obliged to participate, I showed them, in the letter of introduction and information sheet for interviews, that I am a researcher and have no official job to supervise work in schools. However, since the study was conducted at the time of the Covid-19 pandemic, communicating with the Department of Education of WAD to select the schools participating in the study was challenging. Despite this challenge, the schools were selected in cooperation with the Department of Education of WAD, and the school principals were contacted to select the participants from the teachers through the following steps:

1. The researcher sent a letter to the WAD district Department of Education requesting approval to conduct the current study and ask the department to designate up to ten schools.

2. The department then sent the approval letter to conduct the study and nominated just five intermediate schools that had activated the FGP up to the time of the approval letter.

3. After approval, the researcher sent an email to principals designated by the department inviting them to take part in this research study.

4. Three schools were then selected to collect the data in regard to the current study that were among the best schools that had activated the FGP, two of them in urban areas and the third school in a rural area.

5. The selected school principals then sent an invitation to teachers and four teachers from each school were selected.

The participant population of the study involved a total of 15 male participants including three school principals and four teachers from each of the three schools. A brief overview of the three schools is presented in Table 4.1. Using pseudonyms for the schools, it contains their location, their level, student and teacher numbers, and sector. All schools had activated the FGP policy.

Table 4.1: Schools background

Case study	Level	Location	Total students	Total teachers	Sector
School A	Intermediate	Urban	268	30	Public
School B	Intermediate	Urban	159	22	Public
School C	Intermediate	Rural	136	14	Public

In addition, a summary overview of the participants involved is given in Table 4.2. For each school it provides the pseudonyms of the participants (to protect their identity), their specialty, respective job titles and years of experience in education. The three school principals are identified as A1, B1 and C1. The rest of the pseudonyms are for the teachers.

Table 4.2: Participants background

School	Participant pseudonym	Specialty	Job title	Years of experience in education
A	A1	Maths	Principal	13, 3 as a principal + Master of Educational Leadership
	A2	Maths	Math teacher	10
	A3	Chemistry	Science teacher	10
	A4	Arabic language	Arabic language teacher	14
	A5	Islamic education	Vice-principal	18
B	B1	Islamic education	Principal	25, 4 as a principal
	B2	Islamic education	Islamic education teacher	24+ Master of Islamic Education
	B3	Arabic language	Arabic language teacher	6
	B4	Arabic language	Arabic language teacher	13
	B5	Maths	Maths teacher	11
C	C1	Maths	Principal	27, 11 as a principal
	C2	Islamic education	Student consultant	9
	C3	Arabic language	Vice-principal	18
	C4	Arabic language	Arabic language teacher	12
	C5	English language	English language teacher	15

4.6 Methods

I adopted two methods of qualitative data collection. Online semi-structured interviews and secondary sources (school documents) were used during the data collection step (Blandford et al., 2016; Creswell, 2014). Using data from these two sources might enable triangulation, which was essential to promote the credibility of the results (Creswell, 2014). Thus, the interview data was corroborated by secondary data from school documents. Data collection occurred after receipt of Flinders University ethics committee approval for the research (Approval number 8583).

Ethical considerations

In respect of ethical considerations, the study followed all steps consistent with human ethical research. For this reason, ethics approval was obtained from the university's ethics and human research committee. Another permission was obtained from the education department of the identified schools where a letter was sent to the department requesting permission to conduct the research, which was received. Participant information forms were sent to the participants by email and WhatsApp detailing the research objectives, expectations for participation and the risks likely to be associated with participation. The form also informed them of their rights in participating and what was expected of them during the data collection process. They were guaranteed anonymity and confidentiality of the data they were to provide. Participants signed informed-consent forms acknowledging their agreement to participate in the research were received by the researcher by email and WhatsApp, due to social distancing during the Covid-19 pandemic. Other study data collection was through online interviews via the Zoom and available online schools' documents related to the implementation of FGP policy and documents sent by participants via WhatsApp.

Online semi-structured interviews

The online semi-structured interviews were conducted via Zoom application with three school principals and four teachers in each of the three schools, for a total of 15 interviews. The interviews were not possible face-to-face due to the Covid-19 pandemic. Transcripts of the interviews provided raw data that reveals a wide range of detail about the phenomenon under research, with the participants detailing their subjective experiences within their social environments (Braun & Clarke, 2019). In principle, the implication is that the semi-structured interview approach provides the flexibility to move between interview questions and generate new questions to explore why and how certain phenomena occur. In this regard, Creswell (2014) adds that the interview approach is better placed for application in qualitative research because it has the potential to enable the researcher to understand why and how certain phenomena take place. Relevant to my study, as it looks at technology policy enactment, Blandford et al. (2016) found that the interview approach is appropriate for understanding the experiences of people in the use of technology. Thus, the application of semi-structured interviews in my study sought to collect first-hand information from the participants on the topic of interest.

The interview processes

The online semi-structured interview did not strictly follow a formalised list of questions (Blandford et al., 2016). The participants were given the chance to speak about and expand on other areas connected to the interview questions. I also sometimes expanded on the questions by asking sub-questions to explore conversation threads provided by the interviewee in more detail. The questions of principals' interviews were designed using the guideline of FGP policy for school principals in order to explore and explain the processes of principals used in enacting and interpreting of the FGP policy for their schools (see Appendix B). Thus, the principals' interviews questions covered the main three components

of the FGP policy guidelines for school principals (see Appendix A), including preparing

the school environment, motivation and the activation of FGP tools. To further understand

the enactment of FGP policy in schools, three more components were covered in the

interview questions: knowledge of FGP policy, challenges of activation and activation

during the Covid-19 pandemic period in which the interviews were conducted. On the other

hand, the interview questions for teachers were designed to gain teachers' perceptions about

their principal's experiences in handling the enactment of the FGP policy and to explore the

teachers' experiences of FGP policy enactment to obtain an understanding of social

construction in relation to the FGP policy interpretation at schools.

The interview questions were presented to my supervisors and were formulated, where

necessary, based on their recommendations. Pilot interviews were also conducted with some

of the researcher's colleagues, PhD students, to learn more about the interview environment

and procedure and try out the interview questions. In addition, an interview schedule was

drafted based on the availability of participants. I informed them about the scheduled

interview dates and times to ensure a high turnout. The fifteen interview sessions occurred

via Zoom and each interview session lasted approximately 50 minutes. As a result, the

interviews generated a total of approximately 1964 lines to be analysed.

School document collection

Document analysis is a common method to supplement interviews applied in case studies

(Leanne et al., 2020). It uses pre-existing data, a valuable information source, as it is stable

and reviewed repeatedly, while also offering historical information (Bowen, 2009; Morgan,

2022). However, caution is needed as the documents may not report real-life events

accurately. Nevertheless, they are useful for corroborating and augmenting evidence from

other sources (Bowen, 2009; Morgan, 2022). For the current study, document analysis was

used to support and increase the consistency of the interview data.

According to Flick (2015), the researcher should examine a number of aspects while selecting the appropriate documents including authenticity, credibility, representativeness and meaning. To consider these aspects, a review was undertaken of available school documents related to the implementation of FGP and representative of the research topic. Due to the online-only nature of data collection at the time of the Covid-19 pandemic, sources of school documentation were limited. In addition, the documents were reviewed from the official website and the formal Twitter accounts of the schools, the Department of Education, and the Ministry of Education (MoE) to ensure the authenticity and credibility of the documents and avoid forged documents (Morgan, 2022). Most of the documents used in this study were retrieved directly from different sources. The first source was the official Twitter accounts of the three schools, WAD Education Department, as well as the MoE official website. The second source was images and videos sent directly from school principals and teachers through WhatsApp. These documents include the FGP policy guidelines, school activities and newsletters, statistics and official plans, as well as professional development reports. Ultimately, for the purpose of the current study, the 78 document items were analysed and used to increase the consistency of the other forms of evidence collected through interviews (see Appendix C).

4.7 Data analysis

The study applied a hybrid approach informed by Swain (2018), including inductive and deductive analysis of sets of data gathered through online semi-structured interviews and analysis of available policy documentation (Creswell, 2012; Creswell & Poth, 2018; Swain, 2018). A hybrid approach of thematic analysis as described by Swain (2018) was justified for use in this research because it enables the researcher to analyse multiple data sources with prioritisation granted to inductive and deductive coding (Xu & Zammit, 2020). Another

justification for using this approach is that it demonstrates a greater rigour in thematic analysis (Fereday & Muir-Cochrane, 2006). The implication is that adopting both inductive and deductive reasoning allows the research to harness the advantages of both techniques (Fereday & Muir-Cochrane, 2006). It is the kind of thematic approach that informed the two key opposing philosophical reasoning approaches that were integrated at the same time: top-down, deductive, research questions-driven approach and a bottom-up, inductive, data-driven system. The former provided a set of a priori codes that came from the research question and objectives, and the individual questions asked in the interviews, while the latter approach resulted in the creation of posteriori codes resulting from an analysis of the created data (Swain, 2018).

The hybrid approach to data analysis consists of three phases. The analysis process of this approach is viewed as organic, iterative and ongoing, and involves reflection and contemplation on the part of the researcher (Swain, 2018). The three main phases of the hybrid approach are outlined in Figure 4.3.
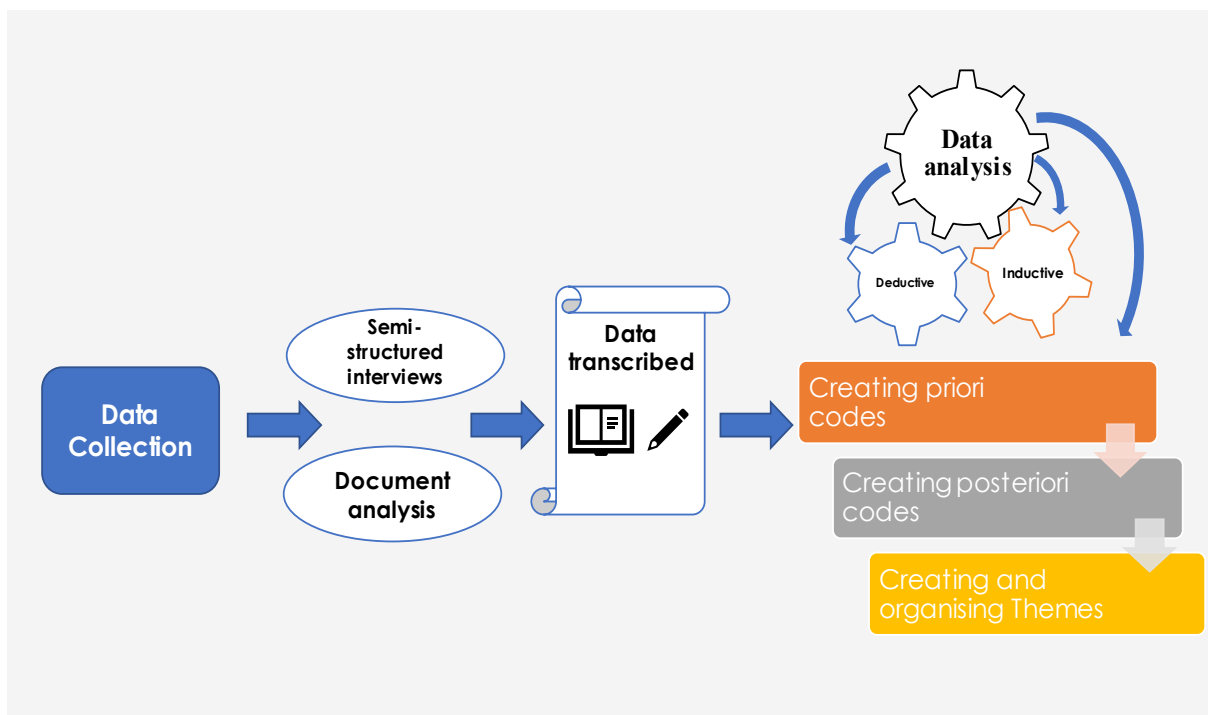

Figure 4.3: The three main phases of the hybrid approach to data analysis

The data analysis process of principal and teacher interviews

Initially, I transcribed the data from the interviews manually. Then, I translated the Arabic transcript of interview data into English as it was initially in Arabic. The interview data was then organised manually in Microsoft Word® documents through different analysis levels applying the three phases of the hybrid approach Swain, (2018). The study conducted an interpretative method of data analysis, applied due to the nature of the data collected from participants through interviews (McChesney & Aldridge, 2019).

After translating the Arabic interview transcripts into English, a three-column table was created. The first column has the English translation of the participants' answers for each interview question (six main questions, see Appendex B), column 2 is for the priori codes and column 3 the posteriori codes, as shown in Figure 4.4.

Figure 4.4: A sample of portraying priori and posteriori codes from interview data

The three phases of analysis are described in the following sections.

Phase 1: Creating priori codes

The top-down, deductive approach was applied to create the priori codes, which were extrapolated from the research question and objectives, and the individual questions asked in the interviews. In this phase, I began to familiarise myself with the transcripts. As a result, six mains priori codes were created: the FGP policy, preparing the school environment, motivation, the activation of FGP tools, challenges of FGP activation, and activation during the Covid-19 pandemic.

Phase 2: Creating posteriori codes

The second phase was creating posteriori codes. Here the bottom-up, inductive approach was applied, where I carefully read the English translation of interview data and highlighted the posteriori codes arising from the data itself and put them in the posteriori codes column of the table with the same highlight colour as shown in Figure 4.4. These codes were developed during the data coding process as I directly examined the data by inductively evaluating the existing technology policy implementation procedures and then relating them to how the participants perceive the enactment of these policies in their respective schools. Issues related to the data examination were identified and documented as the researcher progressed to familiarise with the transcripts (Swain, 2018). I kept reading the English translation of data several times and continued to add and summarise the information in the table until I got to the saturation stage, where I could not find any new codes (Blandford et al., 2016).

Validation of data analysing

There is disagreement about whether or not qualitative researchers should have a third party verify their findings (Gill et al., 2008; Mays & Pope, 1995). This procedure may increase the rigour of the analysis and lessen element bias. There are two main methods for having

data analysis validated by others (Gill et al., 2008): peer review, where another qualitative researcher independently analyses the data; and respondent validation, which involves going back to the study participants and asking them to validate the analysis. The respondent validation method cannot be applied in this study due to the difficulty of returnning to participants in the time of the Covid-19 pandemic. Therefore, the peer review method was applied in this study. At least one additional researcher with an equivalent level of expertise independently reviewed and investigated the interview transcripts, data analysis and emergent themes. It has been stated that this procedure may help to prevent the possibility of lone-researcher bias and assist in offering further insights into the development of the topic and theory. However, many researchers also believe that the effectiveness of this method is debatable as various researchers may interpret the data or certain aspects of it differently (Gill et al., 2008).

To validate the researcher's interpretation and data analysis, the researcher sent the same sections of Arabic interview transcripts to his colleagues, two PhD candidates in Australian univesrsities, to code it or write the important themes they could find, as shown in Figure 4.5.

Figure 4.5: A sample of data analysis validation by peer review

I realised that the peers created some of the same codes that I had created, as shown in Table 4.3. The similarity of some codes may be because the participants have a level equivalent to my experience and specialisation, as they all work in the education sector in Saudi Arabia. However, part of the peer review differed from my analysis, and this was useful in showing the lack of researcher bias and helped in providing new codes that may have been absent during data analysis.

Table 4.3: A sample of data analysis validation by comparing the researcher analysis with two peer reviews

Peer 1 codes	Peer 2 codes	The researcher codes
The importance of Motivation. Encouraging tools. Teacher & students training for using technology. The role of students' general views. They have to be aware about the importance of technology in teaching and learning. Track progress and achievement. The scale of evaluated.	1 - Motivating teachers: A- Announcing through the morning assembly b- Creating a competition between teachers through a table showing the teacher's achievement in a prominent place in the school. C - Assigning a digital transformation coordinator to provide the principal with the names of teachers who activate the system through (discussion rooms - giving assignments and work to students). D - Announcement of achievement scores for teachers to spread the spirit of competition among them. C- Meeting with advertisers and urging them to activate the portal (individual and group meetings). h- Encouraging teachers through job performance scores for portal operators..	Introducing FGP at school by announced at the school for teachers and students. Activation competition of FG among teachers A table was made showing the teachers 'achievement level of the FGP. Collect the points of daily preparation and attendance of teachers in FG platform. creating virtual discussion rooms with students. giving daily online homework to students. The teachers began to be encouraged and motivated to activate the FGP. motivation by increase the degree of teachers' job performance and overlook some default.

Phase 3: Creating and organising themes

The third phase was to create and organise themes. A table was designed with three columns. The first two columns have both priori and posteriori codes of the participants' answers for each interview question and the third has the resultant themes. I read carefully through all codes to identify, generate or arrange suitable themes. I identified codes and collapsed them into themes (Swain, 2018). Some of the priori and posteriori codes could be merged or collapsed into families of codes to generate themes. For example, the priori code of "Policy guidelines of the FGP" corresponds to some posteriori codes that show the extent to which the participants undertsand the policy guidelines of FGP. Thus, I merged these codes into one theme, "The knowledge of FGP policy ". Some of the posteriori codes may be moved to other groups of themes, as shown in Figure 4.6.

School Principal B1

Third Step1-1 : (Creating and organising Themes*)*

Q	Priori Codes	Posteriori Codes	Themes
1	Policy Guideline of the FGP	keep pace with the development and digital transformation through Saudi Visio 2030 Training program for the school coordinator of digital transformation (Move to 2 - Preparing of the school environment) The training program of school principals wasn't enough Self-learning Team work Poor school principal's knowledge of policy guideline of the FGP	The knowledge of FGP policy Poor school Principal's knowledge of FGP policy guideline Lack of Introducing FGP by training programs Self- learning Team work
2	Preparing of the school environment	Government School building Equipping classrooms by the operator company of FGP installing Speed internet Impacting of closing school due to Covid19 pandemic	Preparing of the school environment Government School building Equipping classrooms by the operator company of FGP installing Speed internet Training program for the school coordinator of digital transformation Impacting of closing school due to Covid19 pandemic
3	Motivation	Introducing FGP at school by announced at the school for teachers and students	Motivation: Announced the FGP at the school for teachers and students

Figure 4.6: Creating themes

After comleting the resultant themes, I read all themes sequentially and carefully to divide them into two groups – main themes and sub-themes – to expand the understanding of main themes, at the same time organising themes as shown in Figure 4.7.

School Principal B1

Third Step1-2 : (Creating and organising Themes)

	Themes	Subthemes
1	The knowledge of FGP policy	Poor school Principal's knowledge of FGP policy guideline
		Lack of FGP Introducing
		Self- learning
		Team work
2	Preparing the school environment	Government School building
		Equipping classrooms by the operator company of FGP
		installing Speed internet
		Training program for the school coordinator of digital transformation
		Impacting of closing school due to Covid19 pandemic
3	Motivation	Announced the FGP at the school for teachers and students
		Activation competition of FG among teachers
		Collect the points of daily preparation and attendance of teachers in FG platform
		Announced the teachers 'achievement level of the FGP
		motivation by increase the degree of teachers' job performance and overlook some default
		motivation by announcing the school's activity on the school's Twitter account
		motivation by school classes' WhatsApp groups and teachers WhatsApp group

Figure 4.7 : Organising themes

Consequently, the main themes included the knowledge of FGP policy, the enactment processes of FGP policy including environment preparation and motivation, teachers' experiences of FGP activation, challenges faced in FGP activation, and the impact of the Covid-19 pandemic. My supervisors reviewed the approach of data analysis through their evaluation of the topic (EDUC9978 Research Practice and Analysis) within the Doctor of Education coursework in the second semester of 2020, in which I presented an example of the codes and the emerging themes and advised on their relevance when viewed from the perspective of the collected data.

Document data analysis process

The school document analysis followed the same steps as the interview data analysis but with a different approach. The interview analysis applied a hybrid method to provide a flexible framework for using a form of thematic analysis (Bowen, 2009; Morgan, 2022; Swain, 2018). The document analysis was conducted to support and increase the consistency of the interview data evidence. As a result, the inductive approach was first applied to create posteriori codes from the document analysis. Then, a deductive approach was applied to analyse the posteriori codes in order to identify which themes from the interview data were supported by these posteriori codes. Ultimately, the 78 items of school documents were organised manually in Microsoft Word®. Most schools' documents are photos relating to the FGP activation and others are video and PDF files of FGP policy (see Appendix C).

Initially, I transcribed the written data from the school documents manually as they were in Arabic. A table was prepared providing document number, type, a brief description of the context of the document, and posteriori codes and themes, as shown in Appendix C. I began to create posteriori codes inductively from the document analysis to support the results of the interview data analysis. I carefully read the English translation of the description of the document context and created the posteriori codes. I read the description of the document several times until I could find no more new codes. The posteriori codes of the analysis of all documents were centred on the three main themes of the interview data analysis – preparing the school environment, motivating and activation during the Covid-19 pandemic. Some posteriori codes were merged into families of codes to generate sub-themes, which are discussed in detail in Chapter 5.

Application of Ball's Contextual Dimensions to Theme Synthesis

Ultimately, after generating the main themes of the study, the final themes were synthesied within the Ball's policy framework elements theory- contextual dimensions (Ball et al., 2012) (See Figure 4.8). These are covered in the discussion chapter (Chapter 6), which discusses and interprets the process of FGP policy enactment at schools by school principals and teachers in order to understand the nature of policy enactment at schools in the Saudi Arabia context. In this framing, analysis and interpretation of data is achieved through meaning association and categorisation, taking the complexity of the context into account (Creswell, 2014; Roller & Lavrakas, 2015). Ball's policy framework theory outlines the contextual dimensions that are widely adopted in policy research and school policy enactment (Dorner et al., 2022; Shaheen, 2020, 2022). This approach emphasises how policies are interpreted, translated, mediated and recontextualised in local contexts. The idea of policy enactment emphasises how local context and policy actors impact policy process. Policy enactment is seen as a continuous, nonlinear process in which many policy actors participate in the creative processes of interpretation and recontextualisation to convert the abstractions of policy ideas into contextualised practices (Maguire et al., 2015). It is a sophisticated series of contextually mediated, institutionally produced interpretation and translation processes (Ball et al., 2012).

<u>Third Step1-2 :</u> (Creating and organising Themes*)*

	Themes	Subthemes + Contextual dimensions
1	The knowledge of FGP policy	Poor school Principal's knowledge of FGP policy guideline (professional cultures) Lack of FGP Introducing (professional cultures) Self- learning (professional cultures) Team work (professional cultures)
2	Preparing the school environment	Government School building (Material contexts) Equipping classrooms by the operator company of FGP(Material contexts) installing Speed internet (Material contexts) Training program for the school coordinator of digital transformation (professional cultures) Impacting of closing school due to Covid19 pandemic (External contexts)
3	Motivation	Announced the FGP at the school for teachers and students (professional cultures) Activation competition of FG among teachers (professional cultures) Collect the points of daily preparation and attendance of teachers in FG platform (professional cultures) Announced the teachers 'achievement level of the FGP (professional cultures) motivation by increase the degree of teachers' job performance and overlook some default (professional cultures) motivation by announcing the school's activity on the school's Twitter account (professional cultures) (Material contexts)

Figure 4.8: An example of connecting the final themes with contextual dimensions of Ball's policy theory.

Figure 4.8 shows an example of using the final themes including subthemes within Ball's policy framework elements theory – contextual dimensions.   After presenting the findings of the study in chapter 5, the different subthemes within a single theme were assigned to either of the four contextual dimensions (situated contexts, professional cultures, material contexts and external contexts).   For instance, the principals' approach to preparation of the school environment to support policy enactment is the evidence of material contexts and the teachers' characteristics and behaviours within the FGP activation are characterised as professional cultures. Additionally, these themes and subthemes are covered under the four contextual dimensions in the discussion chapter.

4.8 Conclusion

This chapter has discussed the methodology applied in the study. Constructionism is the epistemology that informs the theoretical perspective of this study in which the reality of FGP policy enactment is socially constructed by the school policy actors (school principals and teachers). The theoretical perspective is interpretivism via an exploratory case study approach informed by policy enactment theory to interpret and discuss the findings of this study. The methods applied by the researcher to collect the data were online semi-structured interviews and secondary data from school documents. A hybrid approach including inductive and deductive analysis of sets of data gathered through online semi-structured interviews and analysis of the available policy documentation was the primary data analysis method used to generate themes. The data analysis process started with creating priori codes, creating posteriori codes, and creating and organising themes. The final themes generated in the analysis of the interviews from the school principals and teachers were (1) knowledge of FGP policy, (2) FGP policy enactment processes, including preparing the school environment, motivation and the activation of FGP tools, (3) challenges of FGP policy enactment and (4) FGP enactment during the Covid-19 pandemic. The findings of all document analysis were centred only on the three main themes of the interview data analysis, including preparing the school environment, motivating and activation during the Covid-19 pandemic. The next chapter outlines the findings of the research, which show the enactment processes of FGP policy by the school principals and teachers.

5   Findings

5.1 Introduction

This chapter presents the findings under each main theme, using relevant verbatim quotes to highlight those findings, supported by figures (Gill et al., 2008). The rationale for this qualitative exploratory case study was to examine school leadership enactment processes of policy regarding technology in Saudi Arabia, focusing on the FGP activation policy. To achieve the study's purpose, the collected data from the perspectives of primary sources in three male intermediate schools including principals (n = 3) and teachers (n = 12) interviews and the available school documents were analysed to explore the issues associated with enacting policy. The theoretical framework introduced in Chapter 4 (Figure 4.3) influenced the analysis.

The data from the principals' interviews addressed the first objective of the study:

1. To explore the policy enactment processes of school principals to change within the Future Gate Project (FGP) policy agenda.

On the other hand, the data from school teachers' interviews addressed the second objective of the study:

2. To determine the teachers' perceptions of the FGP policy enactment at their school.

In addition to interview data, more data from analysis of accessible school documents relevant to the implementation of FGP supported the evidence from the interviews with school principals and teachers. The research findings from the interview and document analysis addressed the main research question:

- How did the school principals and teachers, in three Saudi Arabia intermediate schools in the Wadi Addawasser (WAD) Governorate interpret and enact policy within the FGP policy change and implementation agenda?

The schools context

The study applied purposeful sampling to select three intermediate boys schools including three principals and 12 teachers (four teachers from each school) in WAD Governorate. Schools A and B are in urban areas and School C is in a rural area (see Table 4.1 and Table 4.2). The WAD Governorate is located in Ar-Riyadh province, which is located in the centre of Saudi Arabia (see Figure 4.2). The population of WAD Governorate is 77,363 people (Ministry of Interior, 2023) and is one of the largest agricultural areas in Saudi Arabia; thus, some students come to school from distant agricultural areas. All three schools' communities have the same culture as they practice the Islamic faith, and their first language is Arabic. English is the second language, which is taught in schools. The three schools have government buildings and are equipped with technology such as Learning Resource Centres (LRCs) and computers labs.

The cultural context of WAD Governorate schools has been affected by the political context of Saudi Arabia's education system, as for other schools in Saudi Arabia. The Saudi Arabia education system is a centralised system (Al Mofarreh, 2016). As a result, school policies are developed by top government officials in the Ministry of Education (MoE) and then communicated down to school policy actors such as principals and teachers. These school policy actors think that policy-makers are the ones who develop policies and that school policy actors should only implement them. Specifically, in this study, FGP policy guidelines were sent to the Education Department of WAD Governorate by the Saudi Arabia MoE, and then sent by the Education Department to the school leaders for "implementation", including the three schools chosen from the WAD Department of Education for this study.

The FGP policy is to provide guidelines for FGP platform activation for school leaders, digital transformation officers (DTOs), teachers and students (see Appendix A). The following three sections present the findings of FGP policy enactment process analysis from the three case studies for Schools A, B and C. In each section, contextualised information about each school is provided, followed by an analysis of the data, including the principals' and teachers' online interview data supported by available documents. In addition, the online semi-structured interviews were conducted individually with school principals and teachers during the Covid-19 pandemic. This presented a challenge in scheduling the time of the interviews with participants due to the closure of schools during the pandemic. Consequently, there was a gap in interviews with the participants, as I began with the interviews of the school principals before the teacher interviews. There was also difficulty in the timing of interviews with participants due to the time difference between Australia and Saudi Arabia (+7 hours) as most interviews had to start between 3 am and 5 am, Australian time.

The final themes generated by the analysis of the three schools' interviews of principals and teachers were used to organise the presentation of findings analysis including: (1) knowledge of FGP policy, (2) FGP policy enactment processes, including preparing the school environment, motivation and the activation of FGP tools, (3) challenges of FGP policy enactment and (4) FGP policy enactment during the Covid-19 pandemic. The interview findings will be supported by the available results of the documents analysis.

5.2 School A findings

School A context

School A is a public boys intermediate school in WAD Governorate. It is located in the urban area of central WAD Governorate. The school has 30 teachers and 268 students. Some of the students come to school from remote areas, so often face internet connection difficulties. The facilities are modern. The school has a computer lab and an LRC. Every classroom has a projector. The school has teaching staff ranging in age from early twenties to late fifties. The school recently activated the digital transformation project (DTP). School A's principal has been at the school since 2017 after he gained his master's degree in education leadership and management. His total experience in education is 13 years and his subject discipline is mathematics. The teachers' background is shown in Table 4.2. The analysed data from the interviews of school principal A1 and four teachers, A2, A3, A4 and A5 are presented in the following section. The data from the interviews was corroborated by available documents. The main themes and sub-themes are presented in Figure 5.1.
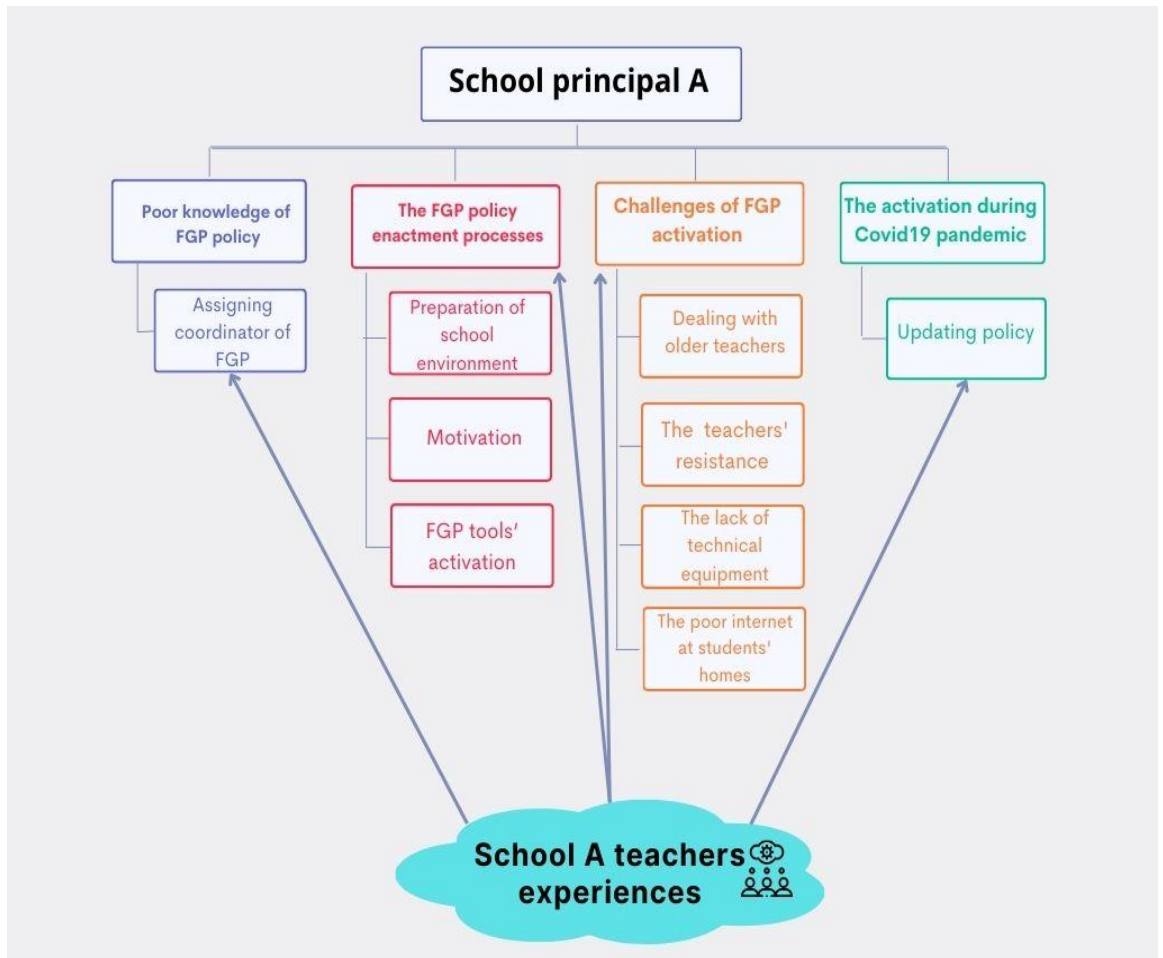
Figure 5.1: The findings of interviews data analysis of School A showing the main theme and sub-themes.

School A interviews data

The findings of School A interviews data analysis are described in the following sections.

Knowledge of FGP policy

A school principal's knowledge of the policy of technology projects is crucial to the policy enactment process and embedding technology projects as he has the responsibility to present and explain the policy to teachers. School principal A1 provided general information about the FGP as exemplified by the following quotation:

> There is a guideline of the activation requirements for the school leader such as check e-lessons preparation of teachers through FG and the work of the teacher and students. The guideline also contains activation requirements for vice-principal, student consultation and parents. (Q1/A1)

When he was asked about some points of FGP policy, he did not remember. He asked me to give him a chance to review the points of policy. After giving him one example of the school principals' points of the FG guideline, such as developing the school leader's personal knowledge, he said, *"Yes, this is one of the policy guidelines points."* He also said, "The school leader can do a virtual meeting with teachers so that he gives them a message of the date of the meeting" (Q1/A1), which is not related to the question. Further, on asking principal A1 about activating a special icon for parents in the FGP platform, he showed poor knowledge about the parents' section of the FGP website, as evidenced by the following quote:

> Frankly, I don't fully know that the parent has an account at FG, but the parent's icon is in the FG. There are ads in above-screen of FG for the parent, student and teacher competitions, where the parent can participate in FG. But I didn't get a message from the parents through the FG. Also, we didn't activate the parents' icon in our school. (Q6/A1)

The above information showed that principal A1 has poor knowledge of the policy guidelines of FGP. The principal explained the reason for his inadequate knowledge was that

his school was late selected by the Education Department due to the refusal of one of the schools to adopt the FGP. He stated that:

> I didn't do a virtual meeting through the FGP with the teachers. My school was chosen after another school refused the FG activation. (Q1/A1)

In addition, school principal A1 mentioned that the introductory training programs of the FGP for school leaders by the Education Department were weak, as evidenced by the following quote:

> The training programs to introduce the FGP weren't enough, so we searched the internet Webs and YouTube for clips explaining the work of the FGP. There were 2 programs. The first program was an introductory meeting for school leaders. The second was meeting with the educational supervising in order to discuss the FGP activation. (Q1/A1)

Further, the response from the teacher interviews emphasised what school principal A1 mentioned. Teacher A4 stated that FGP activation was slower at the beginning because the teachers did not have a training course. Teacher A2 supported what teacher A4 mentioned:

> FGP was a new program especially since the training courses [for teachers] on the program from the Department of Education were delayed. The training courses were in the last part of the first semester of 2019. Therefore, most of teachers worked hard to activate it depended on self-effort. (Q1/A2)

Although the training program was provided for teachers later, the teachers' interactions during of FGP implementation were unsatisfactory, as the following extract from the interview with teacher A3 corroborates:

> Unfortunately, there wasn't the required interaction from the teachers and the students, despite the efforts of the Department of Education, but you know our environment in WAD tends to be non-compliance. (Q1/A3)

Based on the above statements, school principal A1 had limited knowledge of the FGP policy. This was due to two main reasons – late consideration of school A for the FGP activation and an insufficient training program.

FGP policy enactment processes

Preparation of school environment

Preparation and configuration of a digital environment in schools is one of the school principal's policy guidelines for activating and using the FGP tools. It is important to embed and activate the FGP policy in the school. School principal A1 initially had limited knowledge of the procedures for school environment preparation, forcing him to select one of the school teachers to supervise the FGP implementation as exemplified by the following quote:

> My experience of preparing the school environment to activate FGP is that I have chosen one teacher to be the official of digital transformation to supervise the FGP in school. His job at the school is to address the problems faced by teachers and students in activating the FGP. (Q2/A1)

Principal A1 mentioned that the Education Department had asked school leaders to choose a teacher to be responsible for the DTP in general and for the FGP in particular. Further, the Education Department provided a training program for the school coordinator (the official) of FGP, and then the coordinator trained the teachers on how to activate FGP tools, as shown in School A's Twitter account (see Figure 5.2).

Figure 5.2: Training program for School A teachers on how to activate FGP tools. (A-1-1)

On the other hand, the principal of School A explained finding a solution to the poor internet experienced at students' homes by providing six computers in the LRC under the supervision of its coordinator so that students could access the FGP website and do homework virtually, and take advantage of the FG tools during the breaks and between classes or even during the school morning line-up. Also, he solved the weak internet at the school and equipped the computer lab and provided a laptop for each teacher in collaboration with the Department of Education. He also selected some students in the FGP to support their classmate, as revealed in the following quote: "We chose some distinguished students in activating the FG to explain how the FG works for their classmate." (Q2/A1)

All School A teachers mentioned that the school's foundation was ready to implement the FGP. For example, teacher A2 described the effort of school principal to of equip every class

with a projector and strengthened the internet connection in the school by asking for support from the Department of Education. Further, teacher A3 indicated that the school principal sought to provide a laptop for each teacher.

Principal A1 tried to convince the teachers to gradually activate the FG because teachers didn't have enough time to activate the FGP, as evidenced by the following passage from teacher A4's interview:

> At the beginning of activating the FG, some teachers are unable to have enough time to activate the project. Because the education process was in school with the presence of online education through the FG. Every teacher has lessons in the classroom, as well as daily supervision and other work, however, he is required to activate the FG. That is why the teachers said that blended education is tiring and difficult, they suggested that we either be face-to-face education in the school or online through the FG. (Q2/A4)

School principal A1 did not talk about preparation, writing and dissemination of the digital transformation plan at the school, which is one of the principal's tasks in preparing the digital environment, as seen in the document of FGP policy guideline for school principal (see Appendix A).

Motivation

Support and motivation for digital transformation is one of the school principal's policy guidelines for activating and using the FGP tools. School principal A1 showed a high level of encouragement and support for teachers and students in the activation of FGP.

Principal A1 stated that he motivated the teachers who feared failing in FGP activation by sitting with them individually and encouraging them to implement the project, as exemplified by the following quote: "I used to sit with one teacher who was afraid of failure in FG activation and encourage him to deal with FG tools." (Q3/A1) After that, he hired the official of digital transformation at the school to provide private training to the teachers. Further, he used to send a private message to the teachers who showed a low level of FG activation and reminded them gently that he expected to see positive results. He also clarified

that his approach of teacher motivation yielded positive results, as revealed in the following

quote:

> They already progressed and competed in activating the FG. Consequently, in the first
> semester it was only five or six teachers who activated FG and the second semester, 13
> teachers, who are all the school's teachers, activated FG. (Q3/A1)

On the other hand, he used to send a "thank you" message to teachers via the school's Twitter

account to thank them for ranking highly among district schools in FGP activation (see

Figure 5.3). Further, principal A sent a "thank you" message via the school's WhatsApp

group to the teachers who had the most points in FG activation.

Figure 5.3: School principal A tweeted to thank teachers for their achievement (A-2-1)

Another motivational tools that principal A1 used was to host a competition among students and teachers for the best implementation of a virtual class. In addition, he motivated the society, including parents, to activate the FGP by announcing the school's efforts, as evidenced by the following quote:

> The school's Twitter account was activated to announce the school's efforts of activating FGP to introduce the FG for school society. Also, we activated text messages to awareness the parents to motivate them to urge their children to enter and activate the FG and take advantage of it and do the virtual homework. (Q3/A1)

School principal A1 authorised the students' adviser at the school to send text messages to parents urging their children to enter the FG and activate it and to remind them of the importance of activating FG, which was compulsory for students. All four teachers mentioned that the principal often sent appreciation messages to teachers and honoured them, as exemplified by the following quote from teacher A4's interview:

> The principal always sends messages of thanks to the teachers who excel in activating the FG through the school's WhatsApp group. Therefore, this method had the effect of encouraging teachers to activate the FG. He also honoured them at school before the Covid-19 pandemic. All the school's activities related to the FGP were published through the school's account on Twitter, and this had an impact on motivation as well. Further, the principal honoured the outstanding students in activating the FGP in the morning assembly before Covid-19 pandemic, some students, on the contrary, never activate the FG, either before or after the Covid-19 pandemic. (Q3/A4)

Teacher A4 stated that the school's Twitter account had been activated by the principal to raise awareness of the importance of the FGP, as well as to communicate the school's activities in activating the FG. Teacher A5 outlined that principal A1 did a great job of motivating and encouraging teachers to activate FGP by posting the names of the most active teachers on boards inside the school. Also, teacher A2 mentioned that the school principal used to send motivation messages to the teachers via the WhatsApp group, urging them to participate in FG activation.

FGP tools' activation

Principal A1 described his experience of FGP policy enactment by stating that he always checked the FGP platform and confirmed all the teachers' activation. He could see and assess the teachers' daily virtual lesson preparation. Some teachers were unaware of the use of FG tools; thus, he aided them on the use of the tools. He said:

> One of them [teachers] put the lessons preparation hidden from all users, so I told him about this error, and he addressed it. (Q4/A1)

Teacher A4 stated that principal A1 followed up the daily virtual lessons of teachers in the FGP. Also, teacher A5 mentioned that principal A1 asked teachers to prepare the daily lesson, set and assess homework electronically, and bring the scientific enrichment of lessons through the FG. Moreover, teacher A3 stated that principal A1 did the best to activate the FGP tools:

> The principal made a sufficient and distinguished effort to activate FG, and he was keen to be school among the first in the FG activation. Also, he is personally careful to attend the courses about digital transformation and benefit from any information presented. (Q3/A3)

When the principal evaluated the teacher's lesson preparation, it indicated that his preparation had been reviewed by the principal.

> When I evaluated the teacher's lessons preparation, a sign was shown for teachers that his preparation had been reviewed by principal. Also, if it has a note, I often send it privately to the teacher and thank him for the preparation with the guidance for the appropriate modification. (Q4/A1)

Teacher A2 mentioned that principal A1 was very supportive to the teachers in dealing with the FG tools. For example, the principal used to send to them the videos of how to activate FG tools through the WhatsApp group.

All four teachers (A2, A3, A4 and A5) agreed that school principal A1 authorised the school DTO to transfer the FGP policy knowledge to teachers and train them to activate the FG tools, as evidenced by the following passage from teacher A2's interview:

In fact, from the beginning of the project's activation in the first semester of 2019 until three weeks before the end of the semester, the activation was based on personal efforts. But at the beginning of the second semester, one of the colleagues was trained on the FGP activation and was nominated to be the digital transformation officer in the school. He was our reference on this project. (Q4/A1)

The role of school principal A1 in FG tools activation was to encourage and make follow-ups, as evidenced by the following excerpt from teacher A3, who was assigned as an officer of digital transformation:

In the beginning of FG implementation, I was chosen as the school's digital transformation officer. Then, I was trained by course of 20 training hours that was taken in five days, every day four hours by the trainer of the company supervising the FG. After that, I went back to school and trained my fellow teachers on how to deal with and activate the FG … As a digital transformation officer, I cannot order the teachers to activate, but I hint to them from afar and offer them my services in support of any problem facing while activating the FG. (Q1/A3)

The challenges of FGP policy enactment

The interviewees identified four challenges that affected the activation of FG, including dealing with older teachers, dealing with teachers who rejected or resisted the FGP activation, lack of equipment and poor internet at students' homes. The challenges are noted in the following sections.

Dealing with older teachers

Principal A1 referred to some of the elderly teachers in his school who had difficulty activating FGP due to their low understanding of working with computers. He encouraged them to activate the FGP and asked the DTO at the school to support them. He outlined one scenario at his school.

One of the teachers has almost 30 years' experience. He is ashamed of the interaction of all teachers except himself, who has inability to deal with computers and virtual teaching. He told me that he had assigned one of his sons to work as his replacement at the FG and his performance rate was 100%. (Q5/A1)

Teacher A4 mentioned that an elderly teacher refused to accept a laptop that was provided by the Department of Education and said that he couldn't use it. The principal encouraged

him to practise the activation of FG using the school's equipment. After that most teachers activated the FG.

Resistance to FGP activation

Principal A1 described his way of persuading one of his school's teachers who declined the FG activation. First, he invited him to attend the second meeting in the Department of Education relating to FGP implementation. The teacher started interacting at the meeting by discussing and enquiring from the director of the department about the lectures on the FGP. The director explained to him the advantages of the FGP and that the difficulty is faced at the beginning only. As a result, the teacher became one of the best in FGP activation.

Teacher A2 indicated that there was difficulty dealing with and accepting the FGP, whether by teachers or students, because of the delay in training the teachers, as evidenced by the following teacher A2 statement:

> There has been a slowdown by the Education Department in educating and training teachers to activate the FG and also educating students on how to deal with the FG. This was delayed to week 12 of the first semester of 2019 where the school's digital transformation officer was nominated and trained on how to activate the FG. The principal reduced his lessons to have time to be a supervisor of FG at school. After that, he trained us in week 13 of the first semester for two consecutive days at the school on how to deal with the FG. (Q5/A2)

Teacher A2 added that interaction of students with the FG was weak, even those who live in the city, with the availability of the internet and smart devices.

Lack of technical equipment

Principal A1 mentioned the lack of adequate and appropriate equipment for teachers, as well as for classes, especially in the first semester. Teacher A5 mentioned that the reasons for the delay of FGP being activated were that the internet was weak at school and some teachers did not have devices. The teachers who had a laptop and high internet connection at home were the only ones who activated the FGP. Principal A1 stated that, in the second semester

of 2019, a laptop for every teacher and a smart projector for every class were provided by the Department of Education.

Poor internet connectivity at students' homes

Principal A1 and teachers clarified that some students who live in rural areas experienced poor internet access. Principal A1 addressed this issue, as revealed in the following quote:

> There was challenge which faced by students who have the weakness of the internet in their living areas. Therefore, I asked teachers to give students, with poor internet conditions, additional week to do homework through the FG. Finally, 167 students of 188 activated FGP and benefited from it during the Corona pandemic. The rest couldn't activate it because of the weak internet. (Q3/A1)

He also added:

> We had provided six or seven computers in the Learning Resources Centre under the supervision of its coordinator so that students from these areas can enter the FGP platform and do virtual homework and take advantage of the FGP tools during the breaks and waiting classes or even during the school morning assembly. (Q3/A1)

Principal A1 and teachers emphasised that poor internet at students' homes was an obstacle that students faced in the FGP activation during the Covid-19 pandemic.

FGP policy enactment during the Covid-19 pandemic

The Covid-19 pandemic had an impact on the education system. The rapid transition in teaching practices during the pandemic was accompanied by a rapid change in education policy to overcome the obstacles and difficulties facing the schools at this critical time. When the Covid-19 pandemic happened, the school was closed as a result of the MoE decision to close all schools and switch to distance education.

Teachers A2 and A5 stated that during the Covid-19 pandemic the school had accepted distance education more than any other school because they had activated FGP before the pandemic. Teacher A2 gave some examples of activating FGP tools, as evidenced by the following quote:

> We prepared lessons through the FG via designing and uploading lessons in the form of the PowerPoint at the FG. We can use the camera directly to view some photos for students while explaining the lessons. Also, the lessons were discussed with students at the FG. (Q6/A2)

Principal A1 described his experience for the FGP policy enactment during the Covid-19 pandemic by stating that:

> I always contacted with teachers through the school's WhatsApp. I sent an audio message to the teachers explaining the challenges of this phase that education will be online. I encouraged them to interact with students through FG by preparing lessons, discussing and giving homework. I informed them contacting with the digital transformation coordinator for any facing problem. (Q6/A1)

As indicated above, principal A1 continued connecting with teachers and encouraged them to concentrate on using FGP tools during the epidemic. Also, he showed his delegating skill by allowing the school DTO to solve the arising problems.

In addition, principal A1 mentioned that he communicated with parents through the school's Twitter account (see Figure 5.4) and motivational SMS messages to urge them to encourage their children to activate FG, reminding them that activating FG would boost their performance in the final exams. For example, one of these messages reminded parents to get their children to do virtual tests. The SMS read as follows: "There are virtual tests in the FG, could you urge you son to enter FG and do them." (Q6/A1)
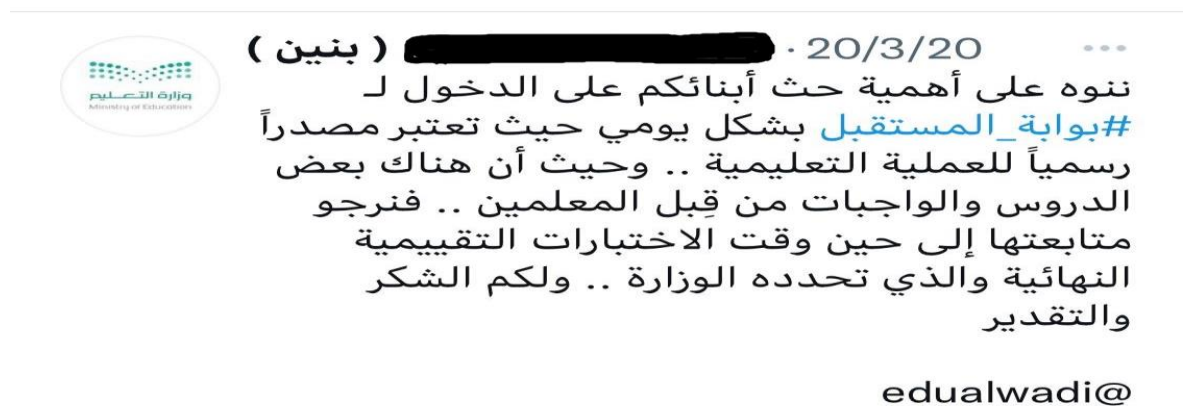
Figure 5.4: School A tweeted encouraging parents to urge their kids to activate FGP

tools. (A-2-5)

However, Teacher A3, who is the DTO at the school, described the challenge of FG

activation after the Covid-19 pandemic, as revealed in the following quote:

> At the end of the second semester 2020, which is the end of the school year, all students were transferred to the next stage of education. The level of students' activation of the FG was unfortunately weak and lower than before the pandemic. On the other hand, teachers continued their work in which some of them were active and the other were weak.
>
> I used to give student a paper test before the pandemic, and then when the results were weak, I put an online test through the FG to motivate them to deal with FG tools. But after Covid-19, this incentive did not exist. They knew that they would pass this year and they were guarantors of success. Thus, the students' learning motivation was generally weak.
>
> During the pandemic, the teachers were no communication with students. As for the school's administration, there was certainly communication with parents to urge their children to activate FG. But in general, there was no improvement in the activation of FG during the pandemic and the suspension of schools. (Q6/A3)

Updating of distance education policy

Teacher A2 mentioned that in the middle of the second semester of 2020, schools were

closed due to the Covid-19 pandemic, and online learning became the only way to complete

the educational process. Also, he indicated a change in educational policy after the Covid-

19 pandemic in that the schools that had not activated the FGP were transferred to another

technology system named the Unified Learning System (ULS), which was launched by the

MoE during the Covid-19 epidemic. Principal A1 described ULS as an educational

technology program for schools that had not implemented the FGP. Its learning channels

explain the curricula lessons for all levels. the online education process during Covid-19

pandemic was therefore through two main methods: interactive learning through the FGP

platform and asynchronous learning through ULS. This was revealed in the official Twitter

account of the MoE (shown in Figure 5.5). Teacher A2 mentioned that the teacher's job was

reduced to preparing the daily lessons and providing homework, as well as uploading the

lessons and associated videos and photos.

Figure 5.5: The Ministry of Education's tweet about the two kinds of online learning during the Covid-19 pandemic. (M-1-8-7)

Principal A1 stated that the MoE published videos explaining how to activate ULS, including how to download a lesson or do homework. Principal A1 mentioned that he is also the principal of a night school that had activated ULS and that some teachers who worked in both night and day schools, used both systems. Further, he motivated students at night school to activate the ULS, as revealed in the following quote:

> I encouraged the students at night school to enter the ULS and activate it. I mentioned to them that anyone who like to success should entering the system and activate it. Then, the night school which I lead got advanced level among of the Kingdom's schools.

After that all teachers revealed that the FGP had been suspended at the end of the second semester of 2020 and all schools were transferred to another new platform, called My School Platform (Madrasati), as teacher A2 corroborates:

> After that, all schools were transferred to the My School Platform at the end of the second semester 2020. Madrasati platform was distinct from the FGP in containing the Teams program, which facilitated communication with students. The Teams program is often in the mobiles of students and teachers, so alerts come directly to the students. In the FG this feature is not available where the notifications do not come until the student enter the FG. (Q6/A2)

In summary, school principal A1 showed limited FGP policy knowledge, which was supported by the school teachers' responses. The data from School A teachers indicated that the school principal appointed the school officer for FGP to transfer the FGP policy to the teachers through training programs. Moreover, school principal A1 enacted the FGP policy through different processes, including preparing the school environment, motivating teachers in various ways and activating the FGP tools. In addition, the findings identified some challenges facing the school in FGP policy activation, including dealing with older teachers, resistance to FGP activation by teachers, lack of technical equipment and poor internet at students' homes. The results also confirmed that distance education policy was updated during the Covid-19 pandemic.

5.3 School B findings

School B context

School B is a public boys intermediate school for memorising the Holy Quran. It is located in the urban area of the central WAD Governorate. The school has 22 teachers and 159 students. The school facilities are modern and include a computer lab and an LRC. The school had recently activated the DTP. Every class has a projector and a smart board. The school has Saudi Arabia staff ranging in age from early twenties to late fifties. School B's principal has worked as a principal for three years. Prior to that, he worked as a vice-principal for four years. His total experience in education is 25 years and his subject discipline is Islamic education. The teachers' background is shown in Table 4.2. The analysed data from the interviews of school principal B1 and four teachers, B2, B3, B4 and B5, is presented in the following sections. The data from the interviews was corroborated by available documents. The main themes and sub-themes are presented in Figure 5.6.
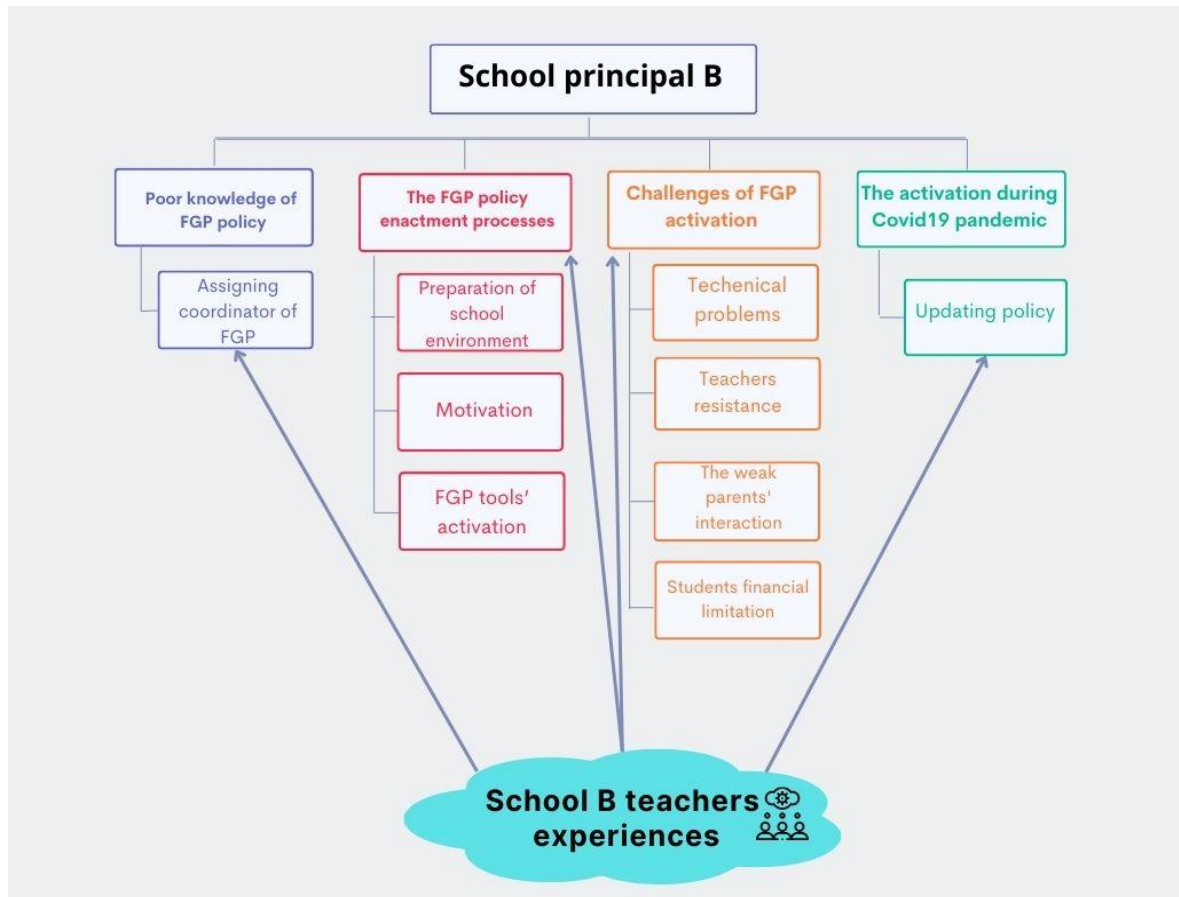
Figure 5.6 The findings of interviews data analysis of School B showing the main theme and sub-themes

School B interviews data

The findings of School B interviews data analysis are described in the following sections.

Knowledge of FGP policy

The study partly aimed to assess the school principals' knowledge of FGP because they are responsible for presenting and explaining the policy to school stakeholders. The principals guide teachers in their schools in the implementation process, irrespective of their level of technological expertise. On the question of whether B1 was highly acquainted with FGP policy, reference was made to the provisions of Vision 2030 that require all sectors in the Kingdom to keep pace with digital transformation. Principal B1 was optimistic that his school was consistently adopting these requirements, as evidenced by this statement:

> Now, our aim at the school is that all our dealings and our work with students and teachers with ourselves should be all digital transformation in order to keep pace with the developments that the Kingdom is experiencing now. (Q1/B1)

Principal B1 added that there was no specific policy for FGP that could be applied in his school. Further, teacher B2 confirmed that he didn't remember receiving anything relating to the FG policy. However, he confirmed that principal B1 did not fail in achieving activation through other informal means. Teacher B2 stated:

> Official circulars are via WhatsApp. I remember that the principal always sends the circulars relating the activation of FG. He may be sending the activation policy of FGP but I had not been briefed on it. (Q2/B2)

The principal noted that some of the teachers had poor knowledge of FG. He stated:

> The teacher did not understand the Future Gate Project as required at the beginning until they were included in a training course at our school by the school's digital transformation coordinator, who also holds courses for teachers in other schools … the students were trained by coordinator of digital transformation to deal with the FGP. (Q1/B1)

Despite the training programs initiative, pitfalls were encountered in training of principals, leading to the adoption of self-training within the school. For further clarification, B1 added:

> The training program of school principals wasn't enough as it was only for three hours or less. I was counted on entering the website of FGP and getting to know it practically. Then we delved into it gradually. We relied on some colleagues in the school to keep pace with other schools. They were all included in introductory program of FGP, and praise be to God, we were successful in involving them in activating the FGP. (Q1/B1)

Nevertheless, principal B1 acknowledged that all was not lost, because of the existence of a set of guidelines that are beneficial to the implementation of FGP. The guidelines are available and are sent to school leaders via circulars of the education administration. The instruction guide is important because, according to B1, "It clarifies the objectives of the project, its mechanism, and the problems and solutions in dealing with the FGP" (Q1/B1). Principal B1 also noted the extensive contents of the instruction guide, and he could not remember them at the time of the interview; however, he responded, "But the most important item is the development of the education process from the traditional approach to the modern

and digital educational process" (Q1/B1). He added, "There are no special policies directed to the school leader or the vice-principal, and I have not yet seen the instruction guide of FGP" (Q1/B1).

The above sentiments are attributable to a weak understanding of FGP by principal B1, despite his determination to ensure uninterrupted implementation of the program. His efforts are notable.

FGP policy enactment processes

Preparing the school digital environment

Principal B1 seems to have prepared his school appropriately to welcome the activation of the project. This is evidenced in his lengthy response:

> In the beginning, we prepared the classes with the required devices to keep pace with the FGP. We started with the company operating the FGP by installing an interactive projector in all classes, and this projector is connected to the internet. The teacher applies his lessons through this projector, which is considered an interactive TV screen in which the teacher displays all his lessons. This interactive projector facilitates the learning process, through which the teacher displays some aids through YouTube or other websites, or it is prepared by a teacher. The projector includes a smart pen by activating the smart board associated with the projector. (Q1/B1)

He also added:

> We have equipped the computer lab, and the learning resource centre with the internet. We had asked the section of information technology in the Department of Education to install fast internet (Viber) and they were very cooperative, as they coordinated with the telecommunications company to install the fast internet in the school. (Q1/B1)

Teacher B5 said that school principal B1 was very diligent in activating the FG. He stated that the principal assigned the coordinator of FG at the school to supervise them in FG activation, as he mentioned in the following quote:

> The school leader is very diligent in activating the FG ... He placed one of the teachers as a digital transformation officer at the school, who is the supervisor of the FG, and we often returned to the FG officer for all the problems we faced in activation. (Q4/B5)

Teacher B3 mentioned that principal B1 sought to prepare the school environment by providing the internet at the school and coordinating with the Education Department. He also stated that:

> He has also repaired some of the school's computers for students who have difficulty accessing the FG from home. Further, he provided a computer at the beginning of activation for teachers who don't have a laptop, and this was in the computer lab and the learning resources centre. (Q4/B3)

Teacher B5 agreed with Teacher B3, and he mentioned that principal B1 provided projectors with smartboard in every class, as well as laptops for each teacher provided by the Education Department.

Motivation

Principal B1 applied a combination of both intrinsic and extrinsic forms of motivation for the teachers. He stated that:

> A table was made showing the teachers' achievement level of the FGP, hanging in my office. The digital transformation coordinator was assigned to provide me daily with the names of teachers and the degree of their activation of FGP through daily preparation and attendance in the FGP and providing educational activities such as creating virtual discussion rooms with students, sharing their opinions, giving daily online homework to students, etc. After announcing the teachers' grades of FGP activation, we noticed that the teachers began to be encouraged and motivated to activate the FGP. (Q3/B1)

Principal B1 mentioned that in his periodic meetings with teachers he informed the teachers that their successful activation of FGP would raise their job performance. However, principal B1 noted some limitations in this motivational approach (performance evaluation) by initially acknowledging that it is an old approach. He expanded on this:

> The evaluation of preparation for the lesson in the old evaluation form is one score out of 100. If some teachers did not preparation the lesson, they will be deducted from only one degree, and of course the lessons preparation are important in activating the FGP and in supporting the digital transformation in the educational process. Therefore, I think that there should be an item in the evaluation form related to activating digital transformation, and an appropriate degree is placed for it so that teachers will be motivated to activate the FGP. (Q3/B1)

Teacher B2 explained principal B1's perception of the activation of the FGP tools from another angle, in that principal B1 was initially asking the teachers to activate the FG platform formally, as they were asked to enter the FGP platform to gain more activation points, as revealed in the following quote:

> The principal sought to activate it more formally than realistically. The principal reminded us that the most important thing is to be in front of the officials of the Education Department that we are active in the FG. So, he was telling us to try log into the FGP and do it formally so that the number of activation points for the school would increase and we would take high positions between schools. As teachers in the school of memorisation Holy Quran, we are careful to increase positive reputation of our school. (Q1/B2)

From this it is clear that school principal B1 invested teachers' emotions in the love of the Holy Quran to motivate them to increase their efforts to gain high points of FGP activation. The quote also indicates that principal B1 is interested in the formality more than the reality of the activation the FGP tools.

In regard to the approaches used by principal B1 to motivate teachers, teacher B2 had the following to say:

> Every week he announced the names of the distinguished students in activating the FG and thanked them during the school morning assembly and offered them some awards. In WhatsApp group, he always mentioned the names of distinguished interactive teachers. This was in the first semester before Covid-19 pandemic and also it was only in middle school. He also conducted training courses for teachers by school's digital transformation coordinator. (Q2/B2)

The above finding is consistent with the observation made by teacher B3 in relation to how the principal motivated the students and teachers. Teacher B3 said the following about the role of the principal in motivating the teachers:

> The principal set up a WhatsApp Group for the FG which specialises in solving the problems that face us in activation the FG and send videos that make activation easier. He had great effort as well as the digital transformation coordinator, who is also the coordinator of education resource centre. (Q3/B3)

As in the case of teachers, students were also encouraged to welcome the FG activation process. Principal B1also invested the students' emotions, through love of the country (Saudi

Arabia), in encouraging them to activate the FGP tools. He provided a video clip for students in the National Day of Saudi Arabia showing King Abdulaziz, who is the founder of the country, entering the Masmak Gate during the conquest of Riyadh, after which he united the Arabian Peninsula (Saudi Arabia), and he told the students that we must continue the King's approach by entering and activating the FGP. Moreover, principal B1 stated that he created awareness by targeting students and their parents with messages on the importance of online education through the FG, and distributed prizes to students distinguished in activating the FG. Teacher B3 mentioned that the SMS messages were sent to parents encouraging them to urge their children to become active in the FGP platform. Further, teacher B3 noted that:

> The principal was also keen to encourage students who were doing the work of the FG. For example, he would give them degrees in participation and give them the prizes. Also, the teachers were encouraged with certificates of gratitude. (Q2/B3)

The above findings are multifaceted as they depict the three dimensions of motivation that the principal applied with the different stakeholders, students, teachers and parents. The approaches of motivation are mutually exclusive as they apply to different stakeholders depending on their individual needs.

Teacher B4 also chose a type of motivation for himself that was not common among other teachers. He said the following:

> One of the motivating methods for teachers that happened to me personally. I asked the principal to excuse me from attending school and working just from home, where I was being asked to come for a day … The principal was understanding my condition and encouraging. The principal was not forcing the teachers; he was encouraging them. He is keen that the platform be activated significantly. (Q4/B4)

Activation of FGP tools

One of the key roles of school principals is to ensure the right approaches of activation are adopted. Principal B1 mentioned that he applied diverse processes to promote the activation of FGP in his school. He was involved in daily logging into the FGP website after the end of the morning assembly and supervising the preparation of the daily lesson of teachers and

reviewing each preparation separately. Here, he commended the teachers with a comment, or directed them in a tactful way to improve the level of lessons preparation and activation of the FGP tools. When asked why he thought this approach was essential, he exclaimed, "I cannot turn a blind eye to the error in the preparation of the lessons because it is under the direct supervision of the educational supervisors in the Education Department. (Q4/B1)"

The other approach of principal B1 was to delegate supervision and electronic assessment of teachers and students. On this, he said:

> Since there are many teachers in the school, I divided the supervision over the preparation of teachers between me and the vice-principal, so that I authorised him to evaluate the preparation of the lessons of some teachers. On the other hand, there is an electronic evaluation for the teacher as well as for the student, so that gives them the percentage of interaction and presence in the FG. (Q4/B1)

Teacher B3 stated that principal B1 noted that everybody feared the new technology, especially with regard to posing a challenge on how teachers communicate with students via FG and how to deal with new technology. On the role of principal B1, teacher B3 stated the following:

> The principal then informed the teachers that there would be training sessions on the activation of the FGP. He directed the teachers and told them that activating the FG would have a clear plan. After that, the teachers accepted dealing with FG and activated it. (Q1/B3)

However, according to teacher B3, some teachers thought the FG was too difficult to implement and they would experience problems, as would the students. On this, teacher B3 stated that:

> The courses were not enough. Thus, we were supported by the digital transformation coordinator and the Learning Resources Centre coordinator to have the ability to deal with FG's tools. (Q1/B3)

Principal B1 is caring of the teachers' welfare within the activation of the project, indicated by the following from teacher B4:

> The principal was careful that not put teachers under the pressure to activate digital learning. It was a psychological and practical burden on the teacher because digital learning is a new thing. So, the principal reduced the teacher's classes. (Q2/B4)

All teachers noted that principal B1 used their WhatsApp group to communicate with teachers and invested in activation of the FGP tools. Teacher B2 stated that:

> I remember that the principal communicated with us through WhatsApp group and told us that some parents complain that their children have no homework at the FG. Indeed, the principal was not given enough opportunity to activate the FG properly. But the technology-passionate principal who has a mission to develop the digital transformation and keep up with the vision of 2030 will perfectly supervise the small and large activation steps. (Q6/B2)

The teachers' experience of FGP tools activation was reported by teacher B5, stating that FGP was an assistive program in the educational process, beginning in the first semester of 2020. He mentioned some FGP tools specifically:

> Teachers upload some enrichment to daily lessons at the FG, such as videos, to be shared with students. They also upload the virtual duties of students. Then students perform online homework through the FG. Those who cannot perform their homework at home can do it at school through computer for students in the learning resources room as well as the computer laboratory. We continued this way until the Covid-19 pandemic came at the end of the first semester of the same year. (Q1/B5)

Teacher B4 took the initiative of helping parents to access the FGP system and activate it.

Challenges of FGP policy enactment

The interviewees of school B identified four challenges that he believed affected the activation of FG, including technical problems, teachers' resistance, weak parents' interaction and students' financial limitation. These are described as follows.

Technical problems

Principal B1 cited weakness of the internet at the beginning of activating the FG. To address this challenge, he stated that "we sometimes used the internet through our mobile phones and private networks so that we could work" (Q5/B1).

A challenge for students was in obtaining individualised passwords due to the complexities and bureaucracies involved. On this, principal B1 said:

> A password is supplied to the student through the Noor system, and then the student goes with this password to the digital transformation coordinator and the coordinator asks him for a mobile number and email, so that the new password of FG is sent to him, and this has difficulty and dispersion. It is assumed that the FG will be an icon of the Noor program to facilitate the process of entering the program for the student and the parent. (Q5/B1)

Teacher B3 noted that he faced technical problems in the activation and use of the FG. He stated that the FGP had limited tools and was not adequately equipped to handle the huge number of students in Saudi Arabia schools. Teacher B2 echoed B3, stating:

> At the beginning of the Covid-19 pandemic, there were many problems in terms of FG activation. This is normal because it is new and has not been given the full opportunity. It was stopped and switched to My School Platform [Madrasati] program, although FG was wider than [Madrasati] and stand-alone. (Q5/B2)

Teachers' resistance

Teacher B2 mentioned that the acceptance of technology from some teachers was a challenge. Teacher B2 said, "The program is new and met with dissatisfaction and resentment, but over time it has been accepted" (Q5/B2).

The absence of teachers at the activation stage was one of the signs of non-acceptance. On this challenge, principal B1 stated:

> The absence of some teachers and dropping out of school due to some circumstance, and they did not compensate for their absence by activating their virtual presence through FG such as sending virtual assignments to students and responding to student inquiries. (Q5/B1)

All teachers indicated that the training program by the DTO at school contributed to teacher acceptance of the activation of FGP tools.

Weak parents' interaction

The level of involvement of parents in their children's activation of FG was low, as most of them did not understand the importance of FG. The school had to contact them through the Itqan program (a text messaging program) and phone call to create awareness of the

importance of the program to the students. This approach achieved positive outcomes, as confirmed by the principal B1's statement:

> Indeed, parents began to strive with their children to activate the FG and communicate with us directly to solve the problems facing their children in entering the FG. In this way, we overcame the ignorance of parents about the FG. (Q5/B1)

Students' financial limitation

Teacher B2 also observed that financial status of students had a negative impact on the activation of FG, stating:

> Low-income students have been so affected by digital education that they cannot buy smart devices to activate digital learning. The Takaful program, which often offer supporting to these kinds of students, does not have sufficient support. Only a group of students were supported. (Q5/B1)

FGP policy enactment during the Covid-19 pandemic

Covid-19 presented difficulties in the activation of FG. Principal B1 noted that the Covid-19 pandemic occurred suddenly and, hence, the MoE and the Education Department mobilised all their efforts to complete the remainder of the educational process of the second semester of 2019–20, as indicated in Figure 5.7. This photo shows educational supervisors with the WAD city governor visiting school B during the pandemic to follow up the implementation of the online learning, where, at the beginning of the pandemic, the teachers worked at school while students were at home.

Figure 5.7: Educational supervisors with the WAD city governor visiting School B during the Covid-19 pandemic. (B-1-1)

The uncertainties caused by Covid-19 led to the need to adopt FG as a process of ensuring continuity of learning. Principal B1 stated that he had to take initiatives that would ensure continuity of the activation process. He confirmed:

> When we were notified of the schools' closure for the remainder of the second semester, we created a team of three colleagues and I am their fourth head (digital transformation coordinator, student counsellor and Noor Program coordinator), and tasks were distributed among us during the Covid-19 pandemic. (Q6/B1)

Each of these team members had a role to play: digital transformation coordinator was responsible for technical support for students, teachers and parent; Noor program official was responsible for continually following up on teachers' preparation for daily lessons and setting passwords and entry for students. The student counsellor guided students and parents through the Itqan messaging program, for communicating with students and parents via SMS.

Further, to ensure the attainment of more positive results, the intervention also involved motivating parents and students by SMS and teachers via WhatsApp. This was reiterated by B1:

> We encourage teachers and urge them to innovate and excel through the school teachers' WhatsApp groups. When a teacher is neglected, I communicate with him directly and try to explain to him the circumstance that we are going through during the pandemic and that he must do everything in his power to continue the educational process and that it is our duty to stand with our students and to stand with the homeland in this sensitive situation. Most of teachers did their job perfectly. If there was a success, it is because of the cooperation of all colleagues. (Q6/B1)

Teacher B4 commented on using WhatsApp during the Covid-19 pandemic:

> During the pandemic, WhatsApp was highly effective, and the principal would provide us with videos and files relation to the platform. We are also invited to join virtual training sessions on how to activate the platform at the beginning of the school year after the coronavirus pandemic. (Q3/B4)

These responses outline the processes that School B applied to ensure that the students, teachers and parents collaborated in activating FG. Otherwise, it would have been a big challenge to effectively achieve the intended goals of activating it at a time when most of the stakeholders had little knowledge of FG.

Ultimately, teacher B2 stated that there was technical problem concerning the FGP platform. The reason is given in the following quote from teacher B2: "This is normal because FGP is new and has not been given the full opportunity. So, it was stopped and switched to [Madrasati] Platform. (Q6/B2)"

Moreover, teacher B3 added another reason for FGP suspension during the Covid-19 pandemic, that the FGP had limited tools and was not adequately equipped to handle the huge number of students in the schools. All School B interviewees concluded that the FGP was suspended, and the educational process was transferred to Madrasati Platform.

In summary, the findings from school B interviews showed the weakness of FGP policy knowledge among the school principal and teachers. The data indicated that the school principal appointed the school officer of FGP to transfer the FGP policy to the teachers through training programs. Moreover, school principal B1 activated the FGP policy in different processes, including preparing the school environment, motivating teachers in various ways, and activating the FGP tools. In addition, the findings identified some challenges facing the activation of FGP policy at the school, including technical problem, teachers' resistance, weak parents' interaction, and students' financial limitation. The findings also indicated the updating of the distance education policy during the Covid-19 pandemic. These results of School B weren't supported enough by the evidence from documents due to the lack of School B documents. I tried to again contact the School B principal and teachers to gain access to documents regarding the FGP policy activation at the school. Unfortunately, this was not possible due to the difficulty of communication

during the Covid-19 pandemic and the time zone difference between Saudi Arabia and Australia (+7 hours).

5.4 School C Findings

School C context

School C is a public boys intermediate school in WAD Governorate. The school has 14 teachers and 136 students. Although it is located in a rural area, the school's facilities are modern, including a computer lab and LRC. The school recently activated the DTP. Every classroom has a projector and a smart board. The school has teaching staff ranging in age from early twenties to early fifties. School C's principal has worked as a principal for 11 years. His total experience in education is 27 years and his subject discipline is mathematics. The teachers' background is shown in Table 4.2. The analysed data from the interviews of school principal C1 and four teachers, C2, C3, C4 and C5, are presented in the following sections. The data from the interviews was corroborated by available documents. The main themes and sub-themes are presented in Figure 5.8.
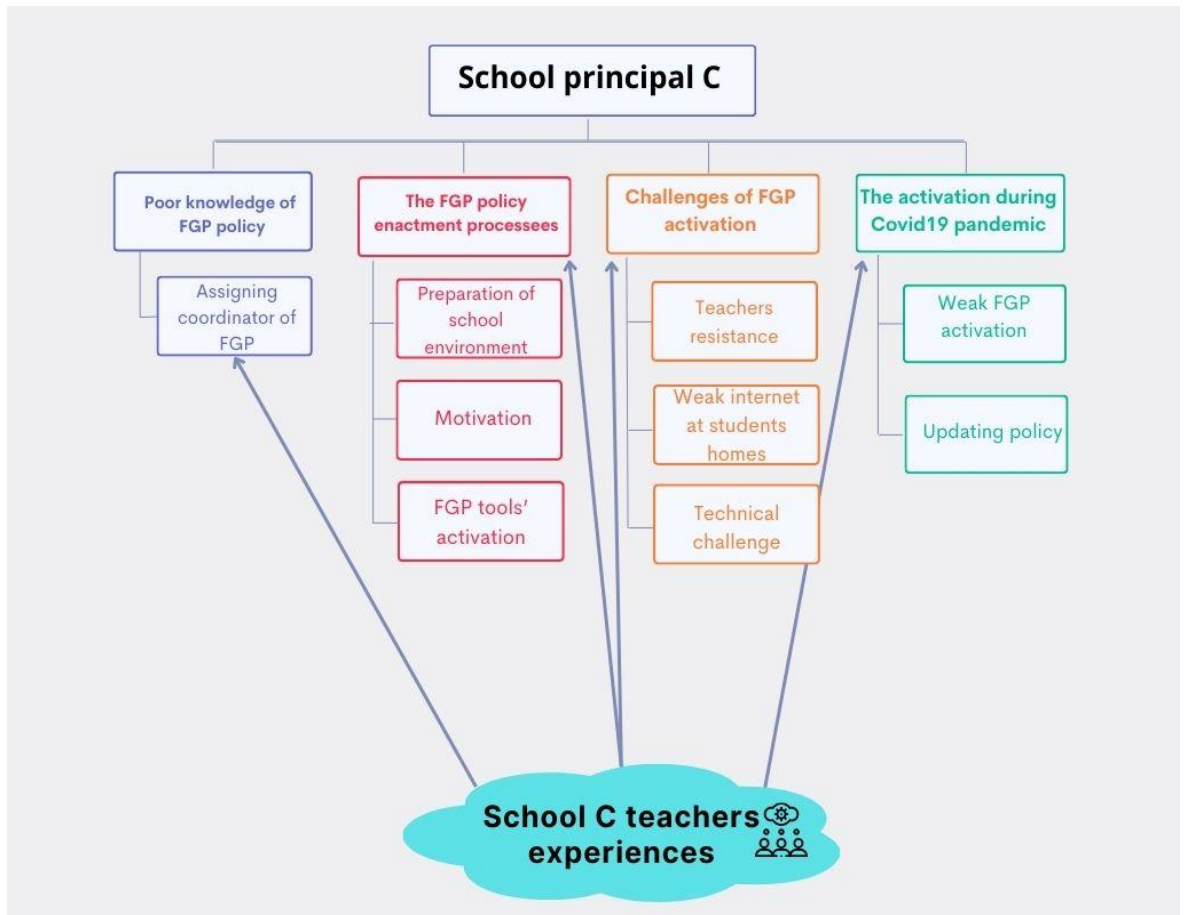
Figure 5.8: The findings of interviews data analysis of School C showing the main theme and sub-themes

School C interviews data

The findings of School C interviews data analysis are described in the following sections.

Knowledge of FGP policy

There are high expectations that school principals should have significant knowledge of the FGP policy because they are the intermediaries between the Ministry and their schools. The study aimed to determine the perspective of FGP policy held by principals and teachers. On whether principal C1 had received the FG project policy, C1 affirmed that the whole policy was sent to him by the Department of Education. He was happy that his school was among the few schools selected for FGP activation. He said:

> Our school was selected as one of the schools that activate the FGP. A coordinator of FG has been selected at school and has been called up in the Department of Education and educated in this program in terms of goals, vision and what is required of us at school to activate this program. (Q1/C1)

He mentioned that because the school's activation was about a month after the rest of the schools, special meetings were needed to start to activate the FGP. He said:

> At first, the Department of Education offered the possibility of applying the program in our school. I was encouraged and motivated by the project's features. I was given an overview of this unique project, which will transform the learning environment into digital education, where students, teachers and parents interact. I said to them: That's what we're looking for. (Q1/C1)

Principal C1 also confirmed that there was a policy guideline for the school's leader to activate the FG. According to him, this was a special guideline. Regarding this question, principal C1 said:

> Yes, the Department sent a mission guide to the principal and the vice-principal. Then they told us that they will send to us a company to set up the school to activate the FGP. But it only came in the second semester 2020. I showed the Department that the school is ready to implement the program as each classroom is equipped with projector and a smart board with a total of six classrooms equipped as a learning resource room. (Q1/C1)

Teacher C2 stated that principal C1 had a long history of education leadership and, when the idea of the project was presented to him, he held a meeting with the teachers about the FGP policy and mentioned its features and goals. Moreover, teacher C3 mentioned that principal C1 indirectly forced teachers to accept the FGP activation by telling them in the meeting that "FGP activation is the direction of the Department of Education, whether we are ready or not, we must accept the project" (Q2/C3). Further, teacher C4 noted that the principal didn't give them a written policy and he mentioned that the training program offered by the DTO at the school was sufficient to activate, in addition to communication with the DTO to address any problems that arise in activating the FGP. However, on whether the policy guideline sent to principal C1 contained activation requirements, principal C1 said that it was not the case. He responded "I didn't see it. I'm just looking at the circulars implemented

by the Department of Education" (Q1/C1). Because the FGP policy guideline contained activation requirements, the response of school principal C1 indicates that he had poor knowledge of FG policy and he relied on the DTO to transfer the knowledge of the FGP policy to teachers.

FGP policy enactment processes
Preparing the school digital environment

Among the roles of school principals is to prepare the right environment for the activation of the FG project. Principal C1 mentioned that every class was equipped with a projector to enable the teachers to use laptops to engage with students and activate the FGP tools (see Figure 5.9). Teacher C2 stated that the school principal created the right environment for activation of FG by providing hardware and software tools. Relating to this issue he said:

> We started from scratch almost, but with the daily practice, and with the interest of the principal and his observation, we received the smart projectors. So, in each class, there's a projector, a laptop and a smart board. After that we received internet enhancement at school. The principal is also continuously following up teachers and students on the FG implementation. (Q4/C2)

On his mode of preparedness, principal C1 stated that he held a meeting with the teachers to gauge their opinion on accepting the FGP activation. The teachers agreed with the activation after principal C1 gave them the fait accompli of the need to accept because the directive to activate the FGP policy was given by officials of the Department of Education, as was explained in the above section, "Knowledge of FGP policy".

After meeting with the teachers, principal C1 started an awareness program about the importance of the FGP. Teacher C2 mentioned that principal C1 raised awareness about FGP at the school by placing posters about the FGP in the school. Teacher C3 added that the principal created a WhatsApp group to send to them instructions about the FG work. In addition, principal C1 stated that he sent awareness messages via WhatsApp to parents about

the importance of the FGP and asked the parents to urge their children to activate the FGP

tools.
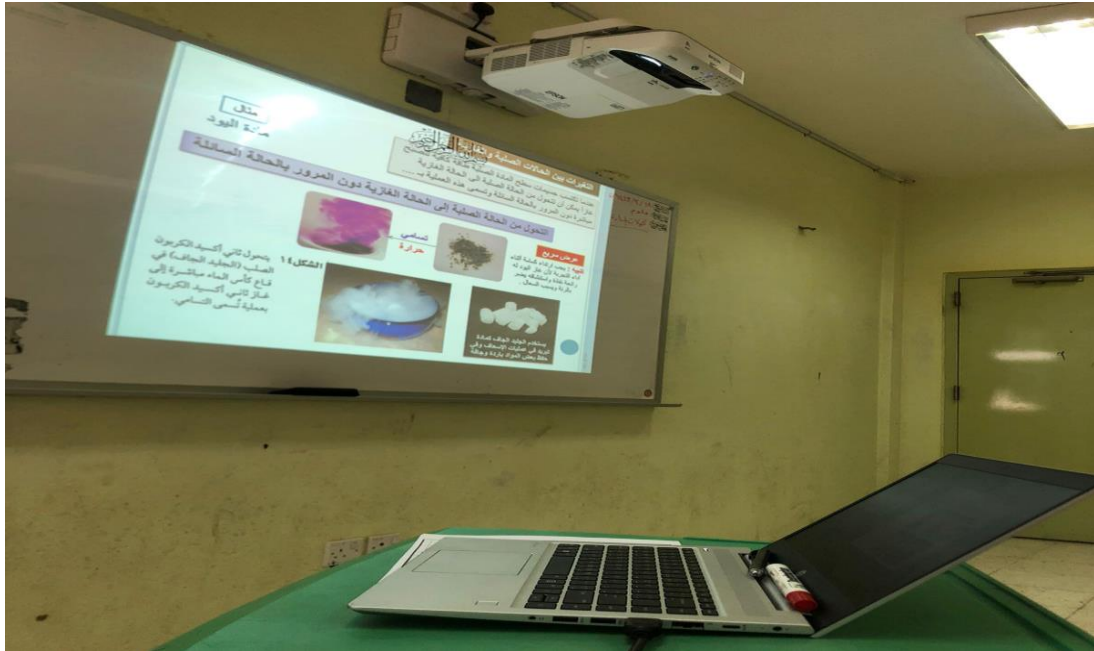
Figure 5.9: Classroom technical equipment in School C. (C-2-1)

According to principal C1, the DTO met each classroom (students and teachers) for two or

three hours to explain to them how the FG worked. Further, videos of the other teachers'

experiences of activating the FGP tools were sent to teachers to explain how to activate the

FGP tools. The awareness program about the importance of the FGP had a positive impact

on the level of acceptance of teachers and students, as evidenced in principal C1's statement:

> My fellow teachers came together, we started to spread awareness about the FG inside
> and outside the school until became easy to it implemented it in our school. So, two
> weeks after the FG was activated, all of our students got into the program and activate
> the FG's tools, but with varying degrees. (Q2/C1)

Teacher C2 confirmed the principal's efforts to build a suitable environment to activate the

FGP, which is outlined in the following quote by teacher C2:

> The principal nominated one of teachers who is the computer teacher as the coordinator
> [DTO] in charge of the digital transformation project and the school's FG. He conducted
> the training courses for teachers. He facilitated the process of reactivation by giving
> advice and overcoming difficulties to all, the principals, teachers and students. (Q2/C2)

Teacher C3 explained the impact of the training course given by the DTO on teachers' acceptance of the FGP activation: "The digital transformation officer then conducted the training course for teachers, which had the effect of giving teachers full acceptance to work on the FGP" (Q5/C3).

Principal C1 created a team to supervise and mentor the activation of the FGP platform at the school, as revealed in the teacher C3 observation:

> The principal created a committee to execute and activate the FGP. It consists of the principal, the school deputy and the student counsellor to monitor the implementation of the program. (Q2/C3)

Teacher C2 is the student counsellor and he had to be involved in direct counselling of students to enhance their activation of the FG. His involvement as a student counsellor is depicted in the following quote:

> Most parents are quick to address the shortcomings of their son's activation of the FG, but some of them, a few, weren't. Thus, we sent them letters via WhatsApp, reminding them of the importance of activating the FG, and urging their son to participate. If the father does not interact, we go back to the student's mother and urge her to encourage her son to interact. (Q1/C2)

The above quote indicates that teacher C2 was proactive in engaging in the activation of the FGP, assisting the school principal to provide the right environment for FG activation.

Motivation

Motivating teachers and students is one of the most interesting roles played by school principals to facilitate the activation of the FG. The effectiveness of motivation is indicated across the results. However, motivational approaches differed from one principal to another, but with some similarities. Principal C1 directly engaged teachers to compel them to activate the FGP (see Figure 5.10). He said:

> We launched a weekly contest among teachers and students for the most activated on the FP. We asked the digital transformation coordinator to provide us with the most points of activation every Sunday. Then, distinguished teachers and students will be honoured. On the other hand, I meet with the teachers who did not activate the FG encouraging them to be more active. (Q2/C1)

تقرير كامل عن إنجاز المعلمين في بوابة المستقبل من الأحد الى الخميس الموافق 6 – 8 إلى 6 – 12 ..

اسم المعلم	عدد الواجبات الإلكترونية	عدد المحتوى الإلكتروني	تحضيرات الدروس	نسبة انجاز المعلم %	نسبة إنجاز الطلاب %	متوسط التفعيل للمعلم %	الترتيب على مستوى المدرسة	الترتيب على مستوى إدارة التعليم
... م الدوسري	12	8	42	31,59	15,41	17,3	2	6
... الدوسري	6	0	6	10,83	11,18	7,54	7	22
... الدوسري	10	0	0	16,67	6,07	6,56	9	29
...	12	0	37	17,8	7,61	10,56	3	13
...	6	0	9	5,06	7,12	3,07	10	39
...	0	0	4	0,89	0	0,89	12	57
... آل	0	0	0	7,27	6,06	7,27	8	24
...	0	0	0	8,89	7,41	8,89	5	18
...	3	0	7	10,68	6,13	7,99	6	21
...	12	12	12	49,29	14,68	23,76	1	2
...	0	0	2	0,86	0	0,86	13	59
عبدالله ...	8	6	0	38,75	7,76	9,23	4	17
...	0	0	0	0	0	0	14	141
... الله	0	0	12	1,34	0	1,34	11	54

Figure 5.10: School C weekly report of teachers' achievement on the FGP (C-4-1)

Teacher C3 explained the principal's way of motivating the teachers:

> Thanks, and praise are the principal way of teachers' motivation and encouragement. So, the principal sent letters of thanks to the distinguished teachers in FG activation through school WhatsApp group. He also sent these letters as a circular to all teachers. If he notices any teacher who doesn't activate the FG sufficiently, he sends official paper has the comment that the teacher must do the FG activation. (Q3/C3)

In addition to motivating the teachers, principal C1 also encouraged students to activate the

FGP. The following is from teacher C5 on motivation:

> The principal made competitions between students who activate the FGP including make an educational video and uploads it to the FG platform. So, there was interaction with the students. (Q2/C5)

Teacher C3 also observed how the principal motivated the students by stating:

> When the principal realised that the high percentage of students in activating the FG, he organised an open fun day for them. He told the students that if they activate the FGP platform, there would be a sports day. Thus, students were encouraged to activate the FGP. (Q3/C3)

The principal also used social media tools such as Twitter to reach out to the key stakeholders

to boost the activation of FG. He said that:

> The school's Twitter account was activated to publicise the school's efforts to activate the FG in order to motivate the school community to activate the project. Also, as I mentioned earlier, we sent the WhatsApp messages to the parents containing everything related to the FG activation. Further, there are signs inside the school explaining the FG's work and policy. (Q3/C1)

The above quote indicates that even the parents were involved directly, as they were considered to be in a better place to motivate their children to use the platform. This counts as an indirect approach of student motivation.

Activation of FGP tools

Under the FG policy guidelines from the Department of Education, the principal is required to lead the activation process. The principal has to devise different approaches and tools for activating the FGP. In this case, principal C1 applied direct and indirect supervision of the teachers' adoption of the FG platform. This is confirmed by his statement:

> Every day after the start of the first class, I log into the FGP platform and check the teachers' accounts and their activation of the FG's tools, preparing daily lessons with activities, and giving homework to students. I ask the school's digital transformation coordinator to provide me with teacher and student activation points every week. Therefore, the distinguished one will be honoured, and the negligent person will be encouraged to act. The activation points are computed electronically through the FG program. (Q4/C1)

The above sentiments indicate that principal C1 was actively involved in ensuring the activation process was undertaken appropriately. According to teachers C3 and C5, principal C1 told the teachers that he would not accept on-paper lesson preparation, so the teachers started uploading the virtual daily lesson preparation through the FG. After that, he evaluated their lesson preparation. This depicts the seriousness with which principal C1 promoted the activation of FG in his school, especially by collaborating with the digital transformation coordinator.

Teacher C4's experience with the activation of the FGP tools was positive, as follows:

> It was a beautiful and fun experience. The FGP platform helped me in the educational process by automatically introducing, correcting and evaluating electronic assignments (homework). It contributed to support the educational process by uploading learning videos and images or concept maps that make it easier for students to understand. These

tools saved effort, made it easier for the teacher work and made it easier for the student learning. (Q1/C4)

Teacher C5's experience was as for the other teachers, except teacher C4, who stated that his experience with the FG was fun. Teacher C5 stated that, in the first instance, they refused to activate the project. He said:

> We would tell the principal, don't accept it, and tell the education office transfer it to another school. But after our school was chosen by the education office and the principal convinced us, we were forced to adapt to the new situation. After some time, we accepted the FG activation and became distinguished in it. (Q1/C5)

In the end, teacher C5 and his colleagues realised the importance of the project, as can be deduced from the following quote:

> The digital transformation project is wonderful and beneficial for us, especially since we benefited from this experience in the current period after the Covid-19 pandemic. This project makes both the teacher and the student partners in the learning process. It relies on technology to deliver the knowledge to the students, which leads to an increase in students' academic achievement. This project also encouraged us to investigate how to activate the educational process through virtual lessons. (Q1/C5)

Challenges of FGP policy enactment

The FGP is a new digital technology for students and teachers; hence, it is susceptible to challenges. School principal and teachers faced difficulties in activating the FGP platform, though not as much as the challenges faced by School A and B.

Teachers' resistance

Teacher C3 presented his observations on the challenges that he perceived at the activation stage. He observed the teachers' fear as they were shocked when the principal accepted the implementation of FGP at the school and they even blamed him for accepting. By then, principal C1 did not have any option except to find solutions to address the teachers' resistance. The solutions were set out by teacher C3:

> At first, he [principal C1] allied with the teachers who wanted to activate the FG. These teachers gave the rest of the teachers a good image of the project. This method succeeded in persuading the initial rejectionists …The digital transformation officer then conducted the training course for teachers, which had the effect of giving teachers full acceptance to work on the FGP. (Q5/C3)

Principal C1 added another solution of the teachers' resistance. When asked about this challenge, he said:

> … we started to sit with them and explain to them the work of the FG, which was only provided to serve the teacher and the student, and to change the learning style for the better. We explained to them that the FG is part of the state's policy of adopting a digital and technical transformation project for all state facilities. (Q5/C1)

Principal C1 explained that, after the above procedure, the teachers became efficient in operating the program and no further problems were faced.

Weak internet connection at students' home

Students also faced challenges during the FG activation phase. The challenge and its solution are outlined in the following quote:

> On the other hand, some students didn't access the FG because they live in the areas which have weak internet that our school is in a rural area, far from the city. So, we have assigned a team including the student counsellor and digital transformation coordinator to solve the students' problem facing the FG activation. As a result, the student counsellor invited students and provided school's computers to do homework in the FG. (Q5/C1)

Teacher C4 mentioned the lack of essential resources, such as the internet and computers, among students. He stated:

> The main obstacle is that some students not entering the FGP and activating it, because of the weakness of the internet in their homes, since they live in rural and remote areas. These are about two students. But most students activated the FG. I invited the students who didn't activate the FG during the school day and hand them the laptop to log into the FG and answer the homework questions. (Q5/C4)

The challenge here was solved in such a way that some of the students who were reluctant to activate the FG were contacted by the school administration to encourage their parents to enter the FG and ask the students to do their homework. This observation was also made by teacher C5:

> Some students have weak internet, so the FG is poorly activated, and some have no computer at home. So, the principal allowed them time to do homework through the FG at school via a special computer. In addition, we mentioned to the students who can't do homework at the FG, do it in a paper. Also, the student's counsellor enumerated

students who had deficiencies in the implementation of the FG and helped them overcome it by contacting teachers. (Q5/C5)

The above quote shows the negative impact of the school location on the FGP activation. Weak internet is common in this rural area. So, principal C1 addressed the problem by delegating the solution to the teamwork of the student counsellor and digital transformation coordinator supported by teachers.

Technical challenges

According to teacher C2, weak internet at the school was a challenge, but it was solved through the support of the Department of Education after the principal sent a letter to the communication company.

FGP policy enactment during the Covid-19 pandemic

The Covid-19 pandemic had an impact on the activation of FG in more than one way. Schools were more inclined towards the activation of FG during the pandemic to allow virtual learning with the schools closing. Teacher C2 stated that the principal relied on technology such as social media platforms to communicate with stakeholders during the Covid-19 pandemic. Teacher C2 explained:

> The school principal oversaw the students' activation during the Covid-19 pandemic when the school was closed and supervised teachers. He sent messages to parents urging their children to enter and activate the gate of the FG. Moreover, he activated the Twitter platform to raise awareness by publicise the school's efforts during the Covid-19 pandemic. WhatsApp groups also was activated to encourage teachers to act. The educational process continued only with doing homework and sending video and photo during the Covid-19 pandemic. Then we turned to [Madrasati] Platform. (Q6/C2)

Teacher C3 also made his observations on how the principal implemented the activation of the FGP during the Covid-19 period. Regarding what the principal did at that time, teacher C3 said:

> The whole education process became online. So, the principal made a teachers' WhatsApp group for the FG sending the instructions of the FG work. He always motivates them in preparing lessons and uploading homework.

Despite the challenges faced in remote communication with teachers and students to activate FGP, communication through WhatsApp was highly regarded by the principal as the most effective approach, as mentioned by principal C1 and teachers C2, C3 and C4.

On the other hand, the student counsellor supported the students and enhanced their use of the FGP during the Covid-19 pandemic. The following was said by teacher C5:

> While schools were closed during the Covid-19 pandemic, the student's counsellor listed the students who had poor internet or financial deficiencies and no computers at home, a small group. He contacted with the office of Takaful program, which is a solidarity program, at Department of Education to support them. Consequently, every student has an iPad and an internet. If some students fail to activate the FG, the student's counsellor visits the father at home or communicates with him to overcome the difficulties in activating the FG. (Q6/C5)

Further, teacher C4 confirmed that he used to send the link of the lesson in the Ien educational channels directly to the students through the FGP. The Ien educational channels are mechanisms and solutions for distance learning provided by the MoE, such as the Ien TV Channel, the Ien YouTube Channel, the Ien Virtual Gate, and other electronic platforms. This was his contribution to the attainment of high rates of FGP activation during the Covid-19 pandemic.

With regard to the outcomes and how they supported the program, principal C1 outlined:

> We encouraged the teachers to activate and access the FG through the WhatsApp group messages. The teachers' activation of FG is often in discussion rooms with students uploading homework … There was follow-up by the department's supervisors to activate the FG during the pandemic, and unfortunately the results for our school were low. (Q6/C1)

However, principal C1 delegated the vice-principal to constantly monitor the teachers to ensure that they were on the right track to achieving full utilisation of FG during the Covid-19 pandemic. Principal C1 stated:

> When the teacher uploads the homework in the FG, the vice-principal is informed and then he sends a message to students' parents urging their children to do homework. (Q6/C1)

Further, teachers applied their own techniques to reach out to the students, despite the challenges faced in conducting virtual classes. According to principal C1, the teachers directed the students to watch the lessons presented in the Ien channel by putting the lessons' link in the FG.

The MoE realised the technical problem of the FGP system during the Covid-19 pandemic that its system couldn't stand up to the huge number of users; as a result, as teacher C4 pointed out, an official circular was sent by the Department of Education that the teacher was not required to do virtual lessons via the FGP platform, but only required to upload homework and follow it up with students. However, principal C1 noted that the FGP activation was not 100 per cent or even 60 per cent, but less than that. Figure 5.11 shows the low school teachers' activation of lesson preparation via the FGP platform.

Figure 5.11: School C report of teachers' lesson preparation via the FGP platform (C-4-2)

In summary, a low knowledge of FGP policy was portrayed by the school principal C1, supported by the school teachers' data. The findings indicated that the school principal assigned the school coordinator of FGP to transfer the FGP policy to the teachers through training programs. Moreover, school principal C1 interpreted and enacted the FGP policy in different ways, including preparing the school environment, motivating teachers in various ways and activating the FGP tools. In addition, some challenges facing the school in activation of FGP policy were identified, including resistance to change among teachers in the FGP activation, weak internet connection at students' homes and technical challenges. Also, the FGP activation during the Covid-19 pandemic was described. The weaknesses of FGP activation as well as the updating of distance education policy were the main problems noted by the school principal and teachers. These results were supported by the evidence from some school documents.

5.5 Findings of the schools' documents analysis

Document analysis data pertinent to the implementation of the FGP were used to strengthen the consistency of the interview data. It corroborated and supplemented the facts from the school principal and teacher interviews. Due to the online-only nature of data collection at the time of the Covid-19 pandemic, sources of school documentation were limited. The majority of school documents are photographs pertaining to FGP activation, as well as videos and PDF copies of FGP policy. The official websites and Twitter accounts of the schools, the Department of Education and the MoE were used to review the documents. Other documents were sent to the researcher by some school principals and teachers, including photos and videos. Included in these documents are the FGP policy guidelines, school activities, statistics, official plans and professional development reports (see

Appendix C). In the end, 78 document items were reviewed, supporting some aspects of the results of the interview data, including the school principals' processes of FGP activation in terms of preparing the school environment, motivating and the effect of the Covid-19 pandemic on the FGP activation. Figure 5.12 shows the findings of the document analysis, including the main theme and sub-themes supporting some aspects of the results of the schools' interview data.
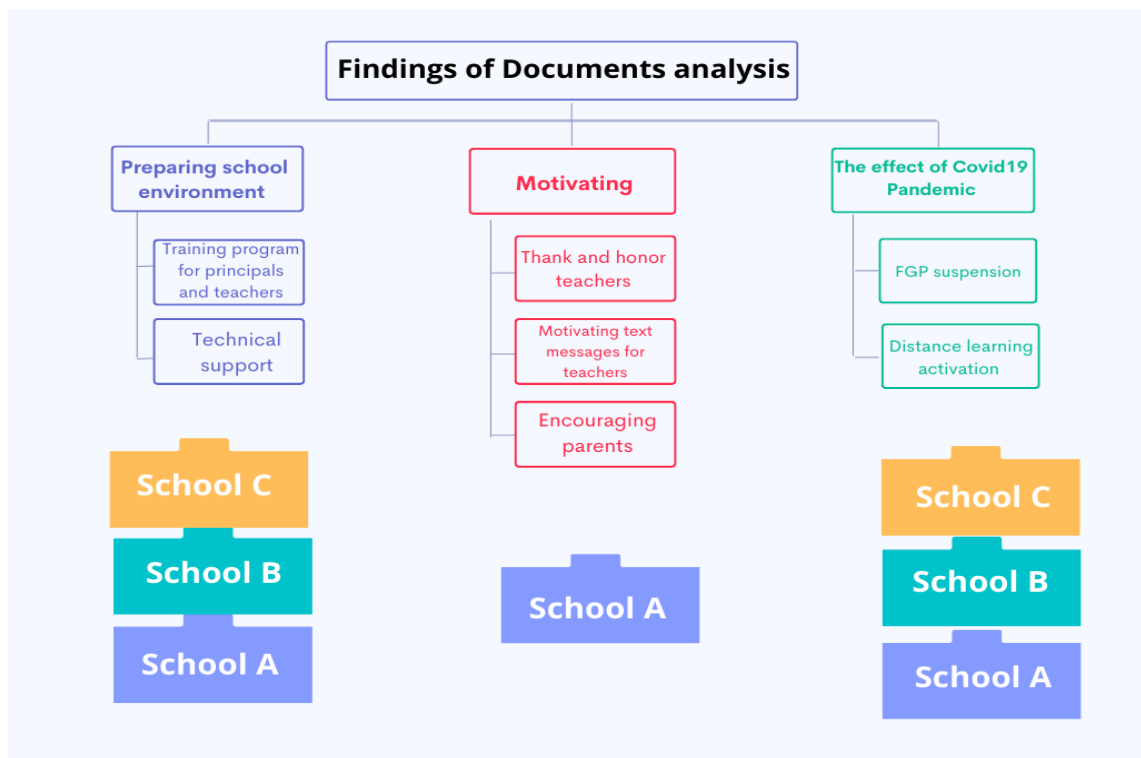
Figure 5.12 Findings of documents analysis showing the main theme and sub-themes that supported the school interview findings

5.7 Conclusion

In this chapter, the data collected from each school's data analysis was presented separately. Overall, all principals of Schools A, B and C showed poor FGP policy knowledge, which was supported by the school teachers' data. The data of all schools' teachers indicated that the schools' principals assigned the school coordinator of FGP to transfer the FGP policy to the teachers through training programs. Further, the school principals interpreted and enacted the FGP policy in various ways, including preparing the school environment, motivating teachers in various ways and activating the FGP tools. In addition, the school principals and teachers identified many challenges facing the schools in the activation of FGP policy. Also, they mentioned the updating of distance education policy during the Covid-19 pandemic as a further challenge to FGP policy enactment. Moreover, the findings were supported by limited document analysis due to the online-only nature of data collection at the time of the Covid-19 pandemic, during which this study was conducted. In the next chapter, I will connect the final themes generated from the data analysis of this study with Ball's policy framework elements theory (Ball et al., 2012). This will help to discuss and interpret the process of FGP policy enactment by school principals and teachers, including their knowledge of the policy, their FGP policy enactment processes, including preparing the school environment, motivation and the activation of FGP tools, the challenges they face and how they adapted during the Covid-19 pandemic.

6   Discussion

6.1 Introduction

The findings of the study, concerning the three schools (A, B and C), reveal the final themes generated from the analysis of the three schools' data showing the process of Future Gate Project (FGP) policy enactment by school principals and teachers. These themes use Ball's policy framework elements theory to discuss and interpret the process of FGP policy enactment in schools by school principals and teachers (Ball et al., 2012) in order to understand the nature of policy enactment in schools in the Saudi Arabia context. The discussion is entirely based on the main research question:

- How did the school principals and teachers, in three Saudi Arabia intermediate schools in the WAD Governorate interpret and enact policy within the FGP policy change and implementation agenda?

The chapter discusses the role of context in policy enactment that involves all four contextual dimensions (situated context, material context, external pressures and professional cultures), school principals and teachers as policy actors, leading change in policy enactment, and comprehension of social construction of policy practices in schools. A conclusion summarising the contents of this chapter is also provided at the end.

6.2 Role of context in policy enactment

Contextual factors exist, and they can either promote or deter the policy enactment process, depending on the situation at hand. Ball et al. (2012) established a typology of context, including situated context, material context, external pressures and professional cultures. This section is thematically organised based on these four contexts to explain their mediating

roles in how policy enactment took place in the three Saudi Arabia schools. This is in tandem with the argument by Braun et al. (2011) that local forces within a school must be acknowledged as the key mediating factors in the policy enactment process. These factors are consistent with ethos, cultures and situated necessities that directly influence the policy enactment process (Braun et al., 2011). The role of context in mediating policy enactment is a known fact and has been covered in the previous literature, and mainly the school policy enactment theory (Ball et al., 2012). All four contexts are discussed in relation to what was done, how it was done, what was achieved, and the challenges faced, in relation to the themes developed at the data analysis stage. The ultimate goal is to evaluate how policy enactment in the three schools occurred in relation to the wider Saudi Arabia policy environment and how they link to the four contextual dimensions. This goal links to the research question, which seeks to understand the policy enactment process from the perspective of school principals and teachers in Saudi Arabia. Their narration of the processes and experiences have been found to be fundamental for contextualising the outcomes and giving an example of a dynamic perspective on how Saudi Arabia schools enact policies.

The situational context

Situated context entails acknowledgement of all the local and historical factors that are associated with the school (Ball et al., 2012). For instance, in the three schools, the principals interpreted the policy texts differently, based on how the schools translate policies and how the respective organisational cultures influence the schools' response to new policies. In this case, it is important to determine how the local contexts within which the schools are located shaped the enactment of the FGP policy.

The studied schools are located in different locations, which could have directly or indirectly impacted the policy enactment processes. Both School A and B are located in urban areas while School C is located in a rural area of Saudi Arabia. Thus, the differentiation of the

schools is dependent on the environmental factors associated with either city or rural aspects of education, culture and social life in general. Determining the school locales is equally important as policies are interpreted differently based on the impact of local environmental factors, which are characterised by culture and needs (Ball et al., 2012). In most cases, geographic disadvantages are associated with schools in rural or remote regions (Herbert, 2020). Since the schools' localities have already been established, it is relevant to determine whether they had a direct impact on the FGP policy enactment process. This observation is consistent with the impact of policy contexts and local conditions, such as school characteristics, regions and communities, which are known to influence the policy enactment process (Ball et al., 2012). Evidently, school contexts and geographies should be highly considered when enacting school policies in a manner that it is seen to be tailored to specific contexts (Herbert, 2020). It is evident from the findings that the locales in which the three schools are situated did not have any substantial impact on the policy enactment process irrespective of whether the schools are located in urban or rural areas, which could have potentially resulted in varying policy enactment process or outcomes. There was no resistance that usually occurs when the policy is narrow and deviates from the school's culture (Heffernan, 2018). Nevertheless, there was no consideration by the Ministry of Education (MoE) of the schools' locations in the implementation of the FGP policy, as the Ministry's expectations for the individual schools were the same irrespective of their cultural and socio-political differences. Further, community participation was not considered as an important contextual factor despite its relevance in shaping a the policy context (Barrera, 2013). Thus, the situational context was not a key barrier in the mediation of the policy enactment process in Schools A, B and C.

The material context

Material context influenced the manner in which the FGP policy was enacted in the three schools. Material context entails a combination of various factors, including infrastructure, technology, staffing, budget and any other material component of the policy enactment process (Ball et al., 2012).

The principals mentioned various material factors, some of which were facilitators of the policy enactment process while others were barriers to the process. One of the key material contexts is textual interpretation and translation of the FGP policy guideline to suit the specific school contexts. Since policies exist as texts, it implies that they are materials by default prior to the interpretation and translation process (Ball et al., 2012). Principal A1 stated that there were guidelines of the activation requirements for the school leader, such as to check e-lesson preparation by teachers through FGP and the work of the teacher and students outlined. The guidelines also contained activation requirements for vice-principal, student consultation and parents. The same trend was also applicable to School B. Similarly, regarding School C, the Department of Education sent the circulars for the FGP with the goals and requirements of the FG. These guidelines were followed in the process of enacting FGP policy despite the challenges faced by the three principals, including poor knowledge of the guidelines. This means that, at the first step of textual interpretation, lack of guidelines or poor understanding of the policy guidelines derailed the policy enactment process in the three schools.

The other formidable material context that was evident in the schools is technological infrastructure (Ball et al., 2012). To a great extent, the school principals tried as much as they could to prepare the school environment to enhance the activation of FGP by ensuring that the internet and other FGP tools were provided and readily accessible by teachers and students. Provision of technological infrastructure is consistent with best practices of

facilitating school technology policy enactment as it is a key enabler of technology acceptance and use by the key stakeholders (Parkman et al., 2018). To meet this requirement, all three schools distributed laptops to the teachers and installed smart projectors in the classrooms with the support of the Department of Education. This approach facilitated the activation of FGP in the schools, as it could have been impossible in the absence of adequate technological materials. The results corroborate the findings of past studies, revealing that resource inadequacy limits the use of technology (Alkahtani, 2017). Lack of resources is a challenge that has been in existence for a long time, as previous studies have found a lack of equipment, technical support and unreliable equipment to be some of the existing external barriers negatively impacting the adoption of new technology (Al Harbi, 2014; Al Mofarreh, 2016). Hence, the school principals exerted more effort to ensure that their schools had enough resources to navigate through the FG activation process.

Staffing was also a relevant material context that influenced the policy enactment process in the schools as previously outlined in the theory of policy enactment (Ball et al., 2012). In the context of the three schools, staffing did not only involve teachers but also other key facilitators of the FGP activation, as deemed essential to facilitate the process and provide the required support. For instance, digital transformation officers (DTOs) were involved in training the teachers on the use of the new technology. The training enhanced the teachers' skills and eliminated the difficulties they were facing in the activation of FGP in their respective schools. Most importantly, some of the teachers participated in training their colleagues and students in FGP activation. Training is a factor of professional development that teachers undergo to enhance their capability to adopt a new technology (Blumenfeld et al., 2000; Fishman et al., 2000). Lack of training prevents successful implementation of policies aimed at adopting education technology in Saudi Arabia schools (Al-Faleh, 2012; Al Mulhim, 2014; Albalawi, 2021; Albugami & Ahmed, 2015). Therefore, to address such

negative outcomes, which may deter the process of policy enactment in schools, implementing training programs for selected teachers is inevitable (Alharbi, 2019). In most cases, technical support such as training is associated with positive results, especially where new technology is introduced to a group of users who may have limited knowledge of its use.

Motivation of teachers was another key material factor that was offered in the schools to facilitate FG policy enactment. The principal, as a leader of change, needs to be motivated and to be able to motivate others (Al Harbi, 2014; Hallinger & Heck, 2009 ; Leithwood et al., 2020; Raman & Thannimalai, 2019). The three principals, A1, B1 and C1, on various occasions, motivated the teachers through training, WhatsApp messages and rewards, especially after performing well in the FGP activation competition. Similarly, students and parents were motivated by the principals through SMS and WhatsApp messaging to activate and use FGP. There are similarities between what happened in this study and the involvement of families as key stakeholders in enhancing the adoption of innovations in schools (Dorner et al., 2022). These initiatives indicate that the school principals were more focused on converging different policy actors to facilitate the process, as a single policy actor may not succeed in the enactment process (Ball et al., 2012). However, they should not concentrate too much on motivating the teachers but spend more time and resources on actualising the actual policy enactment process.

Despite the positive contribution of the material context, related barriers negatively impacted policy enactment in relation to FGP activation. The schools cited a lack of adequate and appropriate equipment to enable FGP activation in the classrooms during the first semester. Internet accessibility was also another challenge facing students in remote areas. In School A, only 167 students of the 188 managed to activate FGP for use during the Covid-19 pandemic due to poor internet connection. Lack of key technological infrastructure is an

impediment to the policy enactment process in schools because it limits the capability of users to engage in the process (Parkman et al., 2018). To address some of the associated challenges, principal A1 instructed his teachers to give the students a grace period of one week to complete their homework. In School B, internet challenges were the same, forcing the teachers to use their mobile phone internet and private networks to continue working. For School C, the challenge of poor internet connectivity was even bigger due to the rural location of the school. This led to slow activation of FGP. To address this challenge, student counsellors invited the affected students and provided the school's computers to do homework in the FGP. According to principal C1, the school assigned a team, including the student counsellor and digital transformation coordinator, to solve the students' problem of FG activation.

Additionally, older teachers generally had more difficulty as they faced the challenge of using the new technology as compared with the younger teachers. This could easily lead to resistance to change among the teachers, as was the case in Qatar despite decentralisation of policy enactment(Romanowski & Du, 2022). On the contrary, the findings of this study confirmed that the use of new technology had a positive impact on older teachers. They demonstrated challenges in accepting and using new technology. For example, school principal B1 mentioned that the new technology project (FGP) forced older teachers to develop their abilities to activate it. Principal C1 confirmed this finding by mentioning that older teachers were among the best in the FGP activation after being guided appropriately. On the other hand, principal A1 mentioned that one of the school's older teachers, who had almost 30 years' experience, was ashamed of interacting with teachers due to his inability to deal with computers and virtual teaching. He assigned one of his sons to work as his replacement for the FGP platform and his performance rate was 100 per cent because, at that time, the requirement was focused on uploading virtual lesson preparation and virtual

homework. These scenarios bring out the issue of the age of the technology user and its impact on the overall acceptance and use of technology (Alroqi, 2021; Hao & Lee, 2017; Venkatesh et al., 2003). Evidently, as confirmed by the findings, certain age groups of technology users may be unwilling to embrace technology because of different factors including lack of skills that are essential for technology adoption and low interest levels (Faridi & Ebad, 2018; Momani, 2020). The implication of this barrier is that more training is required to keep older teachers at par with the rest technologically, which means spending more resources and time on the many interventions that should be undertaken.

The current study has identified the impact of age on the ability of teachers to activate and effectively use FGP in teaching. The impact of gender on FGP activation was not pursued in this study, despite the likelihood of gender being a moderating factor in the acceptability of using technology. In a past study, the authors reported a statistically significant correlation between gender and attitude towards technology use, competency and adoption (Faridi & Ebad, 2018; Simsim, 2011). Additionally, Banoglu (2011) found a higher performance among female technology leaders compared with male technology leaders. However, conclusions cannot be made on the gender factor as this study did not include this variable in investigating the research problem to minimise the scope of the research and focus on the most desired factors.

The external context

The policy enactment process in the three schools was also influenced by external pressures. External context encompasses pressures and expectations arising from the extended local and national policy frameworks (Ball et al., 2012). It is important to determine the extent to which these pressures affected the FGP policy enactment process in the schools, especially considering the Saudi Arabia policy environment and the impact of Covid-19 pandemic on schooling.

A key external pressure that was palatable in the three schools was that the MoE was directly involved and that the principals were only tasked with enacting the policies communicated to them in a top-down approach. This intervention is akin to the impact of the political environment on setting policies and then identifying policy actors to facilitate the translation and enactment process (Wilkinson et al., 2021). This means that the schools lacked the autonomy to contextualise the policy requirements, even when they realised that their locales needed contextualisation to meet the desired socio-demographic needs (Ball et al., 2012). Evidently, in Saudi Arabia, centralisation of policies is common and the Department of Education and the MoE are solely responsible for policy development, therefore denying the schools the autonomy to develop policies befitting their respective contexts (MacLeod & Abou-El-Kheir, 2016). Moreover, the concept of the bureaucracy system is a barrier to the implementation of ICT policies in Saudi Arabia schools (Al Mofarreh, 2016). The effect of centralised systems in Saudi Arabia is that school actors such as principals and teachers are unable to raise any policy implementation concerns inside their schools, resulting in an impediment of radical reforms as key policy actors are unable to make personal contributions to the policy enactment process (Al Mofarreh, 2016). A lack of autonomy among the policy actors is evident in the three schools investigated in this study. For instance, in School A, the principal took the DTO and one of the teachers who had refused to undertake the FGP activation to attend a second meeting with education supervisors in order to discuss the FGP activation and convince the teacher to accept the activation. This means that the teachers in these schools lack autonomy in the policy enactment process, which is contrary to the situation in England (Innes, 2022; Power & Taylor, 2021). However, since there is no room for autonomy in Saudi Arabia regarding policy processes under such circumstances, and that the teachers already understand this issue, it was expected that they would proceed with the

policy enactment process without too much expectations of being granted autonomy to facilitate the process.

In School B, the FGP forced older teachers to develop their abilities to activate the FGP even though they were unwilling to do so in the first place. School C's principal forced teachers to accept the FGP activation by telling them that FGP activation was a directive from the Department of Education and that there was not any other option than to follow the directive. He informed them that they must accept the project irrespective of whether they thought it was a bad or a good idea. Principal C1 went further and forced teachers to do electronic daily lesson preparation via the FGP and warned them that he would not accept paper lesson preparation. Unlike in the cases where teachers cannot be sanctioned for failure to enact a school technology policy (Elstad, 2016), a teacher in School C could be readily sanctioned for their resistance to policy change. These outcomes, essentially lack of autonomy among policy actors, is the extent to which policy centralisation can influence local policy enactment in schools, which are termed as the end consumers of the policies originating from the Department of Education.

One of the schools' principals in the WAD Governorate refused to implement the FGP policy under the pretext that the school was not prepared to activate the FGP. Therefore, the FGP implementation was transferred to School A, which delayed the activation of the FGP policy. The situation of refusing to implement the FGP policy in this school is uncommon in the context of the centralised Saudi education system, where schools are expected to adhere to established policies (Al Mofarreh, 2016). An example of other scenario was outlined by teacher B2, who stated that the principal B1 sought to activate the FGP platform for formality rather than realistically. The principal reminded teachers that the most important thing was to prove to the officials from the Department of Education that they were active in the FGP. As a result, he told the teachers to try as much as they could and log into the FGP platform,

albeit for formality purposes to increase the activation points for the school so that it could be ranked higher among the WAD schools. This effect is consistent with the significant challenge faced by Qatar's educational reform (Romanowski et al., 2020). The decentralised reform of the Qatar education system was implemented through a centralised (top-down) approach in which principals, teachers and parents were not engaged or actively involved in the reform (Romanowski et al., 2020). As a result, the school policy actors resisted the reform change and reacted against the political will that pushed for the reform. This, in turn, may lead to policy opposition or disobedience, which may end up diminishing policy efficacy. Nevertheless, the findings do not reveal whether policy actors at the school level can defy the national directives and apply a forced autonomy outside external forces, especially when the policies are narrow and contradict the schools' contextual factors (Heffernan, 2018). This may not be the case in areas where centralisation of policy processes is the norm.

Various events occurred outside the school environment that evidenced the influence of external context on the policy enactment process (Ball et al., 2012). The most distinguishable external factor was the Covid-19 pandemic, which created the grounds for distance education to be implemented and, as a result, the need to activate the FGP in the schools. Principal B1 collaboratively worked for activation by creating a team during the Covid-19 pandemic consisting of the DTO for technical support for the FG, student adviser for instructing students to optimise the FGP's activation and an official in the Noor program for generating the students' passwords for the FGP platform. The sudden change from traditional classrooms to online classes led to significant challenges for students and teachers pertaining to a lack of skills in using the new technology (Al-Samiri, 2021; Oraif & Elyas, 2021). The teachers also found the Covid-19 pandemic to be an impediment in the policy enactment process as it slowed down FGP activation in the schools as they had to close, as all Saudi

Arabia schools were closed, and the education process shifted to online education (Al-Samiri, 2021; Alzain, 2021). However, the extent of impact of the pandemic on the school could not be established in terms of their location in urban or rural areas. What can be appreciated is that all three schools faced immense challenges in FGP activation during the pandemic. A key point to note is that the Saudi Arabia education system was not entirely prepared for such emergencies, thus causing the slow pace of the digital transformation agenda in the schools.

The mediation of the external context in the policy enactment process faced various barriers that greatly impacted the policy outcomes. For instance, in the case of School B, some of the educational supervisors had poor knowledge of FG, thus compromising the policy enactment process in the schools visited by such supervisors. The other barrier was poor interaction between educational supervisors and schools, which minimised the external pressures that are, more often than not, required to ensure that key policy actors do the right thing to meet the targeted objectives (Ball et al., 2012). Evidently, under such circumstances, it is intuitive to argue that educational supervisors should take a lead in ensuring that schools are adequately resourced and that the right policy enactment guidelines are followed to the letter.

The professional context

The professional cultures in the three schools mediated the enactment of the FGP policy. An institution's professional culture entails the values, commitment, ethos and attitudes that develop over a period of time among the members (Ball et al., 2012). In the three schools, professional cultures had a direct impact on the success of the policy enactment process while, to some extent, also acted as barriers.

The initial point of focus within this context is the commitment of the three principals to ensuring that the FGP policy guidelines were sufficiently followed, as expected by the

Department of Education. Responses from the three principals, which were also corroborated by the teachers, indicate that the principals were involved in the enactment process from the onset of the policy communication by the Ministry. According to Shaheen (2022), school principals play an essential role in policy enactment and, thus, their professionalism is required at all levels of policy enactment. Even though school leaders are required to integrate different stakeholders in the policy enactment process, they are required to have developed a better grasp of the policy guidelines (Ball et al., 2012). There was a challenge in adhering to this directive by the three school principals, leading to delegation of most of their roles to other individuals outside and within their schools.

The professional culture among the teachers can also influence the policy enactment process in schools (Ball et al., 2012). To address the challenge of poor knowledge of FG activation, teachers in the three schools engaged in collaborative work that enabled them to consult among themselves and get instant help from knowledgeable colleagues. According to Robinson et al. (2008), collective and collaborative practices positively influence policy enactment. Thus, in all schools, there were no differences in terms of the need to engage in collaboration to address the challenges of technology use that would have been faced if they had decided to accomplish the tasks individually. Shaheen (2022) also found that collaboration enabled Local Education Agencies (LEAs) to deal with the opposing interests in their quest to enact school technology accessibility policies. Facing limited challenges at this stage implies that the policy enactment process was made easier, as teachers are key policy actors in schools (Ball et al., 2012). A combination of these progressive professional context factors points towards meeting the policy enactment requirements.

The professional context was associated with various barriers that negatively impacted the policy enactment process in the studied schools. The first barrier faced in this context was that the school principals had poor knowledge of FGP policy, despite the requirement that

they should possess adequate knowledge to facilitate text interpretation and translation to the other actors (Ball et al., 2012). This means that there were struggles faced by the principals in interpreting the text despite the intuition that appropriate text interpretation should precede the translation process. Initially, the school principals faced a challenge in the interpretation and translation of the policy text and cited inadequacy of resources and support from the Ministry officials. This happened despite the requirement that key policy actors should be adept and creative in the process of interpreting policies and contextualising them to their locales (Maguire et al., 2015). Secondly, limited ICT knowledge has also been cited as a challenge faced in school policy enactment (Al Harbi, 2014). Hence, there is the need to establish initiatives to equip the key policy actors with significant technological skills to be able to handle any arising issue in the technology policy implementation process.

In all three schools, the teachers cited poor knowledge of FGP activation as a barrier to the policy enactment process, which warranted additional training and selection of the DTO within their schools to promote the attainment of the intended objectives. This is understandable because it was a new school technology that needed additional training to keep them skilled and knowledgeable. Adequate training programs are necessary to improve the knowledge of technological policies among school principals (Ball et al., 2012). Despite the training of school principals being partly prioritised, it was not extensive enough to achieve the intended goal of promoting their knowledge and understanding of the FGP policy requirements. Inadequate training at the time of adopting a new technological tool presents a detrimental challenge in understanding technology in terms of its usage and potential outcomes when adopted by the targeted stakeholders (Albugami & Ahmed, 2015; Alenezi, 2017; Alharthi, 2018). Therefore, to enact digital transformation policies in schools, school principals, who have a prime responsibility for the enactment of policy (Brown, 2021), should first be aware of the policy. As leaders are expected to set direction and organise the

environment, it is critical that they understand the entire process prior to implementation (Alghamdi & Bayaga, 2016; Banoglu, 2011; Leithwood et al., 2020). As a result, all three schools engaged DTOs to help in the improvement of the teachers' knowledge and skills to activate the FGP tools.

Moreover, there was limited exposure and low knowledge of the new technology and the related policy guidelines among the teachers. For example, teacher C4 noted that the principal did not give them a written policy and he mentioned that the training program that was later conducted by the DTO was sufficient to activate, in addition to communication with the DTO to address any problem that arose in activating the FGP. Lack of user exposure to technology is clearly an impediment to understanding policies and the actual process of implementing that technology (Alghamdi & Bayaga, 2016). According to this argument, there should always be a proactive approach of ensuring that school principals are exposed to technology and briefed on new policy as a way of preparing the environment for its enactment (Ball et al., 2011). In fact, this is a very critical attribute of leadership in such a way that the selection of school principals should be based on criteria such as their ability to shape a vision and their capability of creating a conducive environment for the education programs (Clifford, 2010; Wallace Foundation, 2013). Intuitively, failure to fix this challenge and to involve school principals as key stakeholders during the initial stages may pose a challenge to the process of digital policy enactment.

6.3 School principals and teachers as policy actors – doing enactment

Understanding how policies are enacted in schools requires analysing the school policy actors' positions, which leads to identifying the types of actions in the policy enactment process, as Ball and colleagues (2012) revealed in their study of eight types: narrators, entrepreneurs, outsiders, transactors, enthusiasts, translators, critics and receivers. In this

study, the poor knowledge of FGP policy among principals and teachers limited the enactment process in their schools to translation rather than combining the double process of interpretation and translation of policy (Ball et al., 2012). The three school principals did not remember the text of the FGP policy, which negatively impacted the text interpretation step. They relied more on the first meeting and limited training program provided by the Department of Education at the beginning, in which they had the officials' interpretation of the FGP policy guidelines texts and translated them in their schools. Under normal circumstances, it is prerequisite for policy actors to participate in the creative process of policy interpretation and then recontextualise the guidelines to their locales (Maguire et al., 2015; Shaheen, 2022). Participation at this level has the potential of accelerating the policy enactment process (Shaheen, 2020), which means that the enactment process in the three schools could be easily compromised at the initial step of the process.

Consequently, despite their negligible contribution as policy interpreters, the principals were generally translators in the process of enacting FGP policy. Translators are mainly involved in the production of texts, artefacts and events (Ball et al., 2012). Similarly, teachers, due to poor understanding of the policy texts, relied heavily on the training program provided to them by the school's DTO. Therefore, their main role in the process of enacting the FGP policy was as receivers and they were not proactive but, on the contrary, they were critical of the principals' work. However, the roles of the teachers were limited as they could not personally enact unwritten approaches, as is the case in countries such as England, where policy enactment is decentralised (Bentham, 2020).

According to Ball et al (2012) the types of policy actors' roles do not necessarily concern one individual over another. All policy actors should function collectively and collaboratively in enacting policies to make the process effective (Robinson et al., 2008). Some policy actors may move between these roles based on what the context requires, or

they may combine more than one type, in some situations, during their interactions with other policy actors (Ball et al., 2012). During the enactment process of the FGP policy, school principals and teachers occupied various roles as policy actors, including roles as narrators, translators, transactors, enthusiasts, critics and receivers (Ball et al., 2012; Ball et al., 2011a), even if to a limited extent for some.

As narrators, school leaders may act where they have to execute responsibilities such as filtering of information, interpretation of top-down policies and communicating to other stakeholders based on how they understand the policies (Ball et al., 2012). Evidently, the success of policy enactment is dependent on the willingness of school leaders to take an active role in leading the process (Mohamed, 2021). All school principals, A1, B1 and C1, filtered and interpreted the information on the FGP policy they gained from the initial meeting with educational supervisors and the limited training program provided by the Department of Education, and translated them in their schools. This was evident in the first action of the principals after the first meeting with the supervisors of the Department of Education. They returned to their schools and held a meeting with the teachers to inform them of the activation of the FGP. The principals played the role of narrator as they conveyed their interpretations of policy information to the teachers. Therefore, the principals later differed in their roles in how they translated their interpretations in their schools, as is evident in the findings of the current study. For example, all three school principals faced the challenge of resistance from some teachers at the beginning. Thus, principal C1 (in a rural area) indirectly forced teachers to accept the FGP activation, which is an indication that it was mandatory to adhere to the national guidelines without any form of deviation (Anderson et al., 2016; Leung, 2016). It is also evident that principal C1 exercised another role as transactor, where the accounting in which "the school tends to be organised around the needs

of the administration department rather than the teachers, which totally goes against what the point of a school is" (Ball et al., 2012, p. 56).

The other evident role of principal C1 and some teachers was the enthusiast role. For instance, he allied with the teachers who wanted to activate the FGP, and these teachers presented to the rest of the teachers a good image of the activation of FGP. This method succeeded in persuading the initial rejectionists. This result reflects those of Ball et al. (2012), who stated that "enthusiasts can also be policy models or what are called 'influentials', those who embody policy in their practice and are examples to others" (p. 59). The previous different roles of principal C1 and teachers (narrators, transactors and enthusiasts) are consistent with Ball and colleagues' (2012) statement that the policy actors "may move between these roles in different aspects of their work or may combine different aspects of policy work in their interactions with colleagues" (p. 50). On the other hand, principal A1 (in an urban area) played an enthusiast role in that he invited one of the teachers who resisted the FGP activation to attend a second meeting with educational supervisors in the Department of Education to discuss the FGP activation, and convinced the teacher to accept the activation. Also, he played the same role (enthusiast) with students by selecting some excellent students in FGP activation to support their classmates. As a student-cantered approach, it aimed to yield positive outcomes in enhancing the acceptance and use of the new technology (Albadi et al., 2019). Involvement of learners as key stakeholders in school technology policy enactment is commendable (Elstad, 2016).

The current investigation found that the local context of the schools did not have a clear impact on the practice of different roles for policy workers to address the same previous challenge (teachers' resistance), where school principals A and B in urban areas exercised the same roles except for that of indirect coercion, as exercised by school principal C1. However, all of them share the same purpose, which was to demonstrate that they were

activating the FGP to the officials at the Department of Education. Here the influence of the centralised system of Saudi Arabia education in schools, as an external context, emerges as the role of schools is only to implement policy without further developing it (Al Mofarreh, 2016). Therefore, school principals in schools seek to highlight their efforts to officials without paying much attention to their schools' needs (Ball et al., 2012). They were committed to what Ball et al. (2012) outlined: "Getting policy done 'successfully' was important to their career development" (p. 67).

6.4 Leading for change in policy enactment

The three school principals understood that they were to lead the FGP activation process in their respective schools. They acknowledged their role as school leaders right from the point of the initial communication from the Department of Education on the need to enact the FGP policy in their schools. Understanding the role of school leaders as key policy actors is essential for determining how school policies are enacted (Ball et al., 2012). School principals should be highly accountable to the digital technology policy agenda (Brown, 2021). In Saudi Arabia, school principals are accountable to the MoE and are custodians of what the government needs implemented as part of the curriculum (Deraney & Abdelsalam, 2012). As a result, the level of leadership depicted by the school principals as leaders influenced the outcomes that were reported during FGP activation.

School principals, despite their central role in the policy enactment process, ensured that they involved the teachers as much as they could. Collaboration and decision-making sharing are a key practice in school policy enactment (Fullan et al., 2014; Hallinger & Heck, 2009 ; Leithwood et al., 2020; Raman & Thannimalai, 2019). Teacher involvement is a common practice in Saudi Arabia as teachers remain as key actors in the enactment of school technology policies (Alharbi, 2019). Principal A1 chose one teacher to be the officer for

digital transformation to supervise the FGP in the school. The selected teacher's role at the school was to address the problems faced by teachers and students in activating the FGP. He underwent a week-long training course at the Department of Education Training Centre on how to activate the FGP. After that, he took a training program for teachers on the FGP activation. This practice is consistent with the requirement that school leaders should set directions and develop people to achieve the desired outcomes (Leithwood & Jantzi, 2006; Leithwood et al., 2020). In this case, the capacity of the teachers in School A to lead change was advanced through the support of the principal.

In School B, principal B1 chose the option of motivating colleagues in the periodic meetings of the school in which he told them that the activation of FGP would raise their degree of job performance and that any one of the teachers could take an appropriate and high mark if he activated FGP appropriately and that they could score 100 per cent by competing and participating in the activation of the FGP as required. Lack of motivation has been cited as a barrier in the implementation of ICT in Saudi Arabia (Al Harbi, 2014). Principal B1 also supervised the preparation of the daily lesson by teachers and reviewed each preparation separately and even commended them. He also directed the teachers in a tactful way so as to improve the level of lessons preparation and activation of the FGP tools.

In School C, a rural school, the principal initially held a meeting with the teachers as the key actors before communicating the intentions of the FGP to the students' parents. Involvement of teachers as key policy actors is a practice of leading change that was acknowledged by Ball et al. (2012). According to Fullan et al. (2014), Hallinger and Heck (2009) and Leithwood et al. (2020), collaboration with teachers, and likely professional development arising from colaboration and support, is key to the policy enactment process. However, unlike in Schools A and B, school principal C1 dominated the teachers to ensure that the school met the desired FGP activation objectives. Despite leadership being essential in

policy enactment, the whole process should not be the preserve of a single leader to enable

policy change (Harris, 2009, 2013; Raman & Thannimalai, 2019; Vennebo, 2017). Hence,

school leadership responsibilities can be shared between principals and school teachers to

effectively develop a framework for policy enactment in a more unified manner (Hallinger

& Heck, 2009). It is for this reason that this study recruited both school principals and

teachers to corroborate findings on the complexities likely to arise in such situations.

Different policy actors, in this case principals and teachers, are supposed to be actively

involved in the interpretation of the policy texts to facilitate the implementation process (Ball

et al., 2012). However, this argument is not applicable to the three schools because the

expectations were that the principals were responsible for interpreting the texts. Whenever

there is change, different actors should be involved in the process, as such a process is not

the preserve of any specific individual actor (Harris, 2013; Vennebo, 2017). For instance,

despite the principals being granted the opportunity to access the policy documents and

guidelines provided by the Department of Education, they experienced challenges in

understanding the policy texts prior to translation in their respective schools. Across the

board, all three school principals had poor knowledge of FGP policy guidelines. Principal

B1 even stated that he could not remember the contents of the guidelines, a situation that

could compromise the policy translation process. This finding is contrary to the requirement

that, as school leaders, principals should develop a better understanding of the policy text

(Ball et al., 2012). On the contrary, the school principals' low understanding of the

technology policy implementation process is evidenced by the limited extent of preparedness

of the technological environment and the need for the teachers to be trained as early as

possible under the leadership of their respective principals (Alghamdi & Bayaga, 2016;

Banoglu, 2011). Thus, to some extent, involvement of teachers and other policy actors in the

initial stages of evaluating the policy texts could have made the policy enactment process

seamless from the first point of interacting with the technology policies. However, the Department of Education involved principals only as intermediary between their staff and the policy-leaders in the Department of Education, in the assumption that they would involve teachers at a later stage. The principals did manage to involve the teachers in the subsequent policy enactment steps, which is a positive distributive practice (Hallinger & Heck, 2009 ; Harris, 2009).

Resistance to change is another critical issue faced by principals during FGP policy enactment. Resistance is common when the actors believe that the policy conditions are narrow, to the extent that they cannot accommodate the local conditions and contexts leading to a deviation from the school's situated contexts (Heffernan, 2018). In both School A and School B, the principals said they faced the challenge of resistance to change among some teachers. In School A, the issues with resistance to change were associated with older teachers and fear of failure in FG activation. One teacher did not accept the FG at first and refused to participate in its activation and the principal had to invite him to attend the second meeting with the Department of Education in relation to activating the FG, which later changed his perspective, and he was able to activate FG without further resistance. In School C, some teachers did not accept the idea at all, as they preferred the traditional method. An argument can be made that resistance to change is a scion of lack of autonomy among policy actors; however, evidence indicates that it is still a challenge, even in countries where policy processes have been decentralised (Romanowski & Du, 2022).

To address this challenge, principal C1 held a meeting with the resisting teachers and explained to them the work of the FG, which was only provided to serve the teacher and the student, and to change the learning style for the better. He explained to them that the FGP is part of the state's policy of adopting a digital and technical transformation project for all state facilities. Within two months, all the teachers were interacting well with the project.

The leader exerted social influences on the other policy actors (Bush & Glover, 2003, 2014). These approaches were consistent with Ball and colleagues' idea that, despite all the school policy actors having a role to play, some power imbalances may influence their reactions. In this case, the principals were always ahead of the teachers and, as such, they used their powers to quell any resistance to change. However, it can be noted from the findings that, apart from engagement and motivation, other approaches such as distributive leadership were not applied in the three schools.

To effectively counter the change resistance instances, the leadership should be distributive in terms of sharing responsibilities across the team of principal and teachers (Alenezi, 2017; Hallinger & Heck, 2009 ; Harris, 2009; Raman et al., 2014; Raman & Thannimalai, 2019). This means that the principals, as school leaders, should embrace autonomy at the local contextual level by donating some decision-making powers to the teachers (Fullan et al., 2014; Hallinger & Heck, 2009 ; Leithwood et al., 2020). Such collaboration will make the teachers more accepting and, as such, instances of change resistance are likely to be greatly reduced (Raman & Thannimalai, 2019; Vennebo, 2017). Thus, Saudi Arabia schools should emulate this approach during digital transformation to limit the overall impact of change resistance on the people who should be actively involved in the policy enactment process.

6.5 Comprehension of social construction of policy practices in schools

Comprehension of the social construction of policy practices in schools and how they are interpreted emanates from the teachers' professional experiences. According to the teachers, the principals were not adequately knowledgeable in FG activation; however, they were proactive in the preparation of the school environment to enable the activation to take place. It is evident that schools are social entities that are characterised by situated and contextual social construction (Maguire et al., 2015). This means that, as the schools are socially

situated in different contexts, cultures and political spheres, the policy practices should also be socially constructed to ensure that the situated context is prioritised in every selected case (Ball et al., 2012). As a result, the teachers in the three schools had to understand the different elements through which the enacted policies could meet the existing social expectations. In other words, there should be a formidable comprehension of the social construction of policy practices in the respective schools.

The three schools tried as much as possible to contextualise the FG activation and the related policy requirements. Some of the external variables in the teachers' subjective views might have been staff intake, the schools' surroundings and parental expectations. When pooled together, all these factors had a significant impact on the social construction of policy enactment in the schools. Concerning School A, teacher A3 pointed out that there was not the required interaction from the teachers and the students despite the efforts of the Department of Education. He further stated that the environment in Wadi Addawaser (WAD) Governorate tends to be noncompliant. However, the DTO played a critical role in enhancing interactions. As a result, as evidenced in all three schools, collaborative working among the teachers was one of the approaches towards achieving integration and compliance with the FG project (Robinson et al., 2008; Shaheen, 2022). Visibly, the policy enactment process in each of the schools had to adhere to the provisions of these social contexts to be successful in implementation. Schools are more likely to enact policies that blend well with their social contexts and meet the needs of the people within those contexts, as well as solve the specific problems identified; that is, situated contexts (Ball et al., 2012). The assumption is that the policy process will have more impact if all the social dimensions of the policy environment are considered. Further, as schools are complex systems encompassing different groups of people, histories and professional commitments, they create a social context that is material to the policy development process (Ball et al., 2012). When the teachers' experiences are

juxtaposed with the findings of this study, it is evident that teachers from each of the three schools presented diverse views from different social lenses.

The teachers also detailed their perceptions of the principals' approaches to the FGP policy enactment process, which, when viewed from the perspective of social construction, is essential for evaluating how the teachers and principals interact in the school's social system (Blumenfeld et al., 2000; Leithwood et al., 2020; Raman & Thannimalai, 2019). For teachers from School A, principal A1's roles of providing equipment, encouraging teachers and motivating everyone were transformative. School leaders are required to develop a clear vision and mission for their schools that aligns with the Department of Education's goals (Robinson et al., 2008). For School B, enthusiasm and the desire to create awareness were among the influential aspects depicted by principal B1. In School C, despite the principal adopting forceful measures to ensure teachers activated the FG, they supported teamwork and cooperation among colleagues to enhance the activation process (Robinson et al., 2008). Intuitively, school principals are leaders, and they have social influence on the schools, teachers included (Bush & Glover, 2003). Hence, for teachers to develop positive perceptions towards the principal's capabilities to lead change and policy agenda in relation to school technology, they should be fully convinced that the social context is satisfied (Maguire et al., 2015; Shaheen, 2022). In such cases, teachers will not have any option but to support the policy process as transactors, enthusiasts, critics and receivers (Ball et al., 2012). For instance, school principals highly motivated the teachers to increase their participation in FGP activation and coordination of training in the use of the new technology. However, such outcomes could not have been attained if the involved parties were socially constructed to believe that the whole process was untenable. To some extent, the success of the principals in enacting the policies may be attributed to the social construction of their capability to do so from the perspective of the teachers, who are critics in such cases (Ball

et al., 2012). As a result, the principals received support from the teachers, which enabled them to achieve the intended outcomes, albeit to a limited extent due to centralisation of the policy process.

6.6 Conclusion

This chapter, focusing on the results of Schools A, B and C, has discussed the role of context in policy enactment, school principals and teachers as policy actors in the enactment process, leading change in policy enactment, and comprehension of the social construction of policy practices in schools. The discussion was established through deductive application of the policy enactment theory (Ball et al., 2012). The situated context was not critical in the policy enactment process as both urban schools (A and B) and a rural school (C) were considered for activation of the FGP. Regarding material contexts, the relevance of interacting with the policy text was appreciated in this study. Since the principals had poor knowledge of the FGP policy, they were engaged by Ministry officials, and more support was provided on demand to ensure that they translated the policy requirements appropriately in their respective schools. It is also evident that the schools prepared the technology environment appropriately through provision of infrastructure to necessitate FGP activation. The principals spearheaded teacher training by the DTO and went further to motivate the teachers and students as much as possible to promote FGP activation. A key external pressure that was palatable in the three schools was that the Ministry was directly involved and that the principals were only tasked with implementing the policies communicated to them in a top-down approach. Being a centralised system, Saudi Arabia schools are not directly involved in policy development as it is the preserve of the Ministry. Thus, the policy processes were approached by policymakers in the MoE from a policy implementation perspective, which expected that all schools should implement the policy regardless of their contexts. The study

findings showed that all three school principals had a poor understanding of the FGP policy. Consequently, they faced challenges in interpreting the policy texts before translating them in their respective schools. However, they are fully engaged in policy enactment through collaborative practices. The professional context was evidenced by the knowledge and grasp of FGP policy guidelines among school principals, how the principals coordinated the whole policy enactment process, the teachers' willingness to participate and collaborate in the FG activation and, to some extent, resistance to change by some of the teachers. However, through training, encouragement, direct supervision and motivation, the barrier of resistance to change was eliminated.

The discussion also outlined the role of school principals (as leaders) and teachers as actors in the policy enactment process. The school principals were narrators as they communicated the intentions of the FGP activation to the teachers. They were also transactors and enthusiasts, as were some teachers, in the process of policy enactment, which also motivated the rest of the teachers to join in the activation of FGP. However, text interpretation was a challenge to most of them and they had to be aided by the department's officials. On the side of teachers, one of them possessing technical skills was selected and assigned the role of DTO to train other teachers on FGP activation. These roles, when combined, are consistent with the requirements of Ball et al. (2012) policy enactment theory that affirm that different actors should participate in policy enactment.

Finally, in the comprehension of the social construction of policy practices in schools, it was acknowledged that schools are social systems that can be contextualised. The social construction was understood from the experiences of teachers and their role as critics. The teachers from the three schools appreciated the role played by the principals throughout the FGP activation process. The teachers were supportive, and this prompted the cooperation and collaborative practices that led to low resistance to change within the three schools.

7   Conclusion

7.1 Introduction

The study aimed to examine the enactment of policy processes regarding technology in schools in Saudi Arabia, focusing on the Future Gate Project (FGP) policy in order to understand how policies are interpreted, translated, mediated and recontextualised in a centralist policy environment. To achieve this, I investigated three Saudi intermediate schools in the Wadi Addawasser (WAD) Governorate in regard to their interpretation and enactment of policy within the Saudi Arabia FGP policy change and implementation agenda. The research objectives pursued were:

1. to explore the policy enactment processes of school principals to change within the FGP policy agenda.

2. to determine the teachers' perceptions of the FGP policy enactment at their school.

These objectives were developed to answer the main research question:

How did the school principals and teachers in three Saudi Arabia intermediate schools in the WAD Governorate interpret and enact policy within the Saudi Arabia FGP policy change and implementation agenda?

7.2 Objectives outcomes

The key objective of the study was to explore the process of school technology policy enactment in the three schools. Generally, the study's findings show that policy enactment in schools is a sophisticated series of contextually mediated, institutionally produced interpretation and translation processes, as identified in Ball et al. (2012)'s policy enactment theory. That is, policy enactment is the interpretation and translation of processes by

different policy actors across a broad set of situations and practices. However, the most significant finding from this study is that policy enactment in the three schools was complicated, especially during the initial stages of text interpretation. Interpretation of the policy as text prior to its translation and contextualisation was not done appropriately due to the principals' limited knowledge of the policy guidelines and the limited way in which the Ministry of Education (MoE) 'prepared' principals for enactment. The intricate relationship between the limited knowledge and low preparedness from the side of the Ministry negatively impacted the lunching phase of the policy enactment process. However, the Ministry officials were deployed to guide the interpretation process, which enhanced the principals' knowledge of what they were expected to do throughout the different stages of the policy enactment process. The incapability of the school principals in the initial policy enactment phases shows that there is a high likelihood that policy actors may not be competent interpreters of the policy text and, as a result, the policy enactment process becomes compromised unless quick interventions are considered. To salvage such situations, as the development of policy is centralised, the Ministry has the responsibility of making follow-ups and providing support to the concerned stakeholders – in this case, the school principals.

The most significant finding from the study is that, despite operating within centralised systems where autonomy is limited, the three principals tried as much as possible to contextualise the policy enactment process, especially through preparation of the school environment. It is evident that they understood that preparation of the school environment for the policy enactment process was essential to prevent the occurrence of negative outcomes during the implementation process. Principally, the three school principals lacked autonomy in enactment of policies for their schools; however, the most interesting observation is that they tried as much as possible to utilise the available resources and the

support from the Ministry officials to facilitate the FGP activation. At the first instance, they mobilised resources and developed a technological infrastructure in readiness for FG activation. Across the three schools, the principals provided the technological devices and internet to facilitate the FGP activation process. Secondly, the principals found it tenable to support the training of teachers and motivating them to accept and use the technology. Different motivation approaches were adopted by the school principals, which worked well to achieve the desired objectives. However, all these processes were intertwined and there was no particular order in which the final outcome was to be attained. Nevertheless, the ultimate outcome was to ensure that the policies were enacted as communicated and proclaimed by the MoE.

The finding that attracts great attention is on the real intention of technology policy enactment in the schools as perceived by the policy actors but not by the policy makers. In the first instance, apart from the effects of Covid-19, warranting migration learning to online platforms for remote accessibility by the learners and teachers, the Ministry had its own intentions of ensuring that schools started to align with the national digital agenda that will lead to the adoption of technology in all schools. However, the perspective was not obvious as it was seen as a narrow view of policy enactment without considering the realities and contexts that characterise different schools and policy actors. For this reason, it was evident that, to some extent, some schools activated FG only to meet the Ministry's directives and to be listed among the leading schools in the activation. This means that the real intention of the policy enactment process could not have been achieved based on the assumption that it was meant to serve the interests of the MoE and not as a transformative agenda for school technology. As a result, issues such as resistance to change by some teachers and problematic enactment of the policy were evident.

Nevertheless, dealing with change resistance and how the school principals addressed the arising issues differed among the schools. Notably, resistance to change took a new twist, especially in School C where the school principal applied an authoritarian approach to force a teacher who was resisting change to activate FG. Despite the lack of autonomy in Saudi schools in relation to contextualisation of policy, I believe that a more collaborative approach could have been adopted by the principal C1 to respond to change resistance, as was done in other schools, including teacher motivation and holding meetings to explain the policy requirements. The reality is that human beings have to adapt to new occurrences according to arising circumstances. Unfortunately, the Saudi system of school policy reforms assumes that policy implementation is non-negotiable and yet there should be room for making decisions, such as in the case of decentralised systems. Each situation should be contextualised to advance the wider perspective of the policy actors and subjects. However, as this has not been the case in Saudi Arabia, it may not be possible to confidently outline its merits against the known demerits.

7.2 The study's contributions

The novelty of this study is related to its contribution to the extant literature on school technology policy enactment in Saudi Arabia where policy centralisation is the norm. Previous studies on the progress of technological policy implementation in Saudi schools found that the implementation of the policies studied failed to meet the expectations and aims of the educational development initiatives (Alenezi, 2017; Alharbi, 2019; Alyami, 2014; Oyaid, 2009). This observation by the previous studies is attributable to this study based on how the policy enactment process was undertaken and all the intricate relationships that existed between the contextual dimensions and the realities characterising the individual schools, principals, teachers, students and the external environment impacting the schools'

social standing. In this study, I discovered that, despite the top-down approach of policy implementation in centralised contexts being the norm in Saudi Arabia, it does not expressly imply that the process of policy enactment can be readily achieved without turbulence and resistance. The findings of this study show that there were struggles that the schools had to face to streamline the FGP activation within the policy for technology change agenda. First, poor policy interpretation by school leaders compromised the policy text translation process, which is the foremost and the most fundamental policy-setting phase. The school principals, as policy leaders, could have involved the teachers at the interpretation stage, as collective and collaborative approaches had more impact in the later stages of policy enactment. This is evidenced by the positive contribution of the teachers as policy actors, especially after being trained and motivated to activate the FGP under the leadership of the principals.

Consistencies and inconsistencies were also established in this study compared with the previous school policy enactment literature. In Dorner et al. (2022), it was found that educational policy enactment is dynamic and interactive and, thus, it should involve a wide range of stakeholders, including parents, who are always perceived as less significant school policy stakeholders across the board. However, even though parents were involved in this study, there are differences because Dorner et al. (2022) involved parents at an earlier stage of policy development to determine their views on the proposed learning technology, while in this study school leaders did not consult parents beforehand but only informed them to support the learners in FG activation. A consultative process may attract opposition from local interests, as discovered by Shaheen (2022). This then explains why policy makers in Saudi Arabia prefer less consultation or involvement of multiple stakeholders at the policy development stage. They tend to be more aligned to development first then communicating the guidelines to the key actors for translation and enactment. The other key contribution of this study to the general policy enactment literature is the portrayal of the extent to which

autonomy impacts the policy enactment process. For instance, even though teachers who operate in autonomous contexts may decline enacting a policy, they cannot be sanctioned for their action (Elstad, 2016). This is not the case for Saudi teachers because they can be easily sanctioned as the system is centralised and with limited autonomy to allow the policy actors to act independently. Thus, the novelty of this research is associated with the idea that, unlike in decentralised systems, Saudi Arabia still maintains a system that does not support autonomy at the local levels.

Another key contribution of the study to the literature is that policy enactment should not be the preserve of a single actor (Vennebo, 2017). In the study, it is evident that, even though the school principals were the main participants in policy interpretation, which posed challenges to them due to insufficient knowledge of the policy guidelines and inaccessibility to policy guidelines, they had to collaborate with other stakeholders to manoeuvre through the imminent challenges that could possibly compromise the whole process. The principals then involved teachers as the primary actors in policy translation, while at the same time facilitating their training and their subsequent role of training others and aiding the students in the activation process.

7.3 The study recommendations and implications

The study presents significant policy implications in the area of school technology policy enactment in Saudi Arabia, a context that has attracted scarce research interest. Policy-makers in the MoE might better consider a policy development approach that incorporates different stakeholders starting from the initial stages of policy interpretation. For instance, they could involve teachers, students, school leaders and parents to understand the impact of the school locales and culture on the policy process. Consideration of this recommendation will possibly eliminate the challenges faced in policy enactment as the required policies

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deviate from the school's situated contexts. Moreover, if possible, autonomy should be allowed and supported so that policy actors can make decisions and translate policy texts in a manner that serves the unique interests of their schools. As a result, it will be possible to contextualise the policy process to the respective school locales, cultures and needs to maximize the outcomes.

The areas that this study contribute to are education, curriculum development, technology and leadership. Regarding education, the study indicates that technology is essential; however, the implication of its adoption is immense, especially when enacting the guiding policies becomes complex. Therefore, if targeted changes are made to the policy process, then the education sector is likely to be positive impacted. On curriculum development, the Ministry might better adopt technology policies that are consistent with the academic needs of the students because achieving positive results in complex environments may be problematic if the right processes are not followed. For technology, the study outlines the challenges faced by the users in implementation. Therefore, system designers need to ensure that the technological tool is less sophisticated to avoid challenges such as those faced in the three schools. Moreover, the schools will have an idea of the type of technology that suits them and the types of technological tools that are needed to sustain the change agenda. Regarding leadership, it is evident that the school principals played a key role in leading change. The challenges faced have been outlined, which may act as the background of identifying the knowledge and skills that school leaders need to initiate changes without resistance. The leadership aspect of the school policy change agenda is key to implementation of school technology policies and can be replicated in different contexts.

This study makes commendable theoretical contributions to the literature on school technology policy enactment. It is evident that few studies exist on this issue, especially in the context of Saudi Arabia, where policy development is centralised and that only the top-

down approach of enactment is acknowledged. This study has established that such an arrangement is problematic to the key policy actors and may lead to negative outcomes in technology acceptance and use as evidenced by the experiences of the interviewed principals and teachers. The assumption that policies must be enacted in the absence of autonomy has also been declassified in this study because it presents more harm than good or may lead to a positive impression that the policy is being enacted appropriately even when nothing substantial is taking place. Hence, the realities should be more acknowledged than the contents of the policy texts, because situated contexts have more impact on the policy process. Ultimately, there are calls for decentralisation of school policy processes in Saudi Arabia to make milestones and be at par with other countries that are decentralised and allow autonomy to thrive.

7.4 Future research

Future work might focus more on the impact of leadership on policy enactment for policy change because it was found to be an interesting factor even though it was not the main area of interest in our study. The current study highlights that the school principals provided leadership that led to the enactment of the FGP policy through preparation of the school environment, utilisation of the available resources, and supporting the training of teachers and motivating them to accept and use the technology. Notably, delegation of leadership roles is essential in such a way that even the teachers should be leaders tasked to perform certain roles in the digital transformation agenda. In this study, some of the teachers played the role of DTOs and, thus, their leadership in this regard led to positive outcomes in the enactment process. However, the outcomes of the overall impact of leadership on the policy enactment process was limited, as we could not differentiate it from the "management" role. Hence, future researchers could consider adopting quantitative methods to establish causal

relationships between different types of leadership (e.g. democracy as transformational, and autocracy as transactional) on the school technology enactment process. Such a finding may be a pointer to what the Saudi MoE should consider as the most relevant leadership style that could be applied in the school digital change agenda. On the other hand, I would have applied the observation method and collected the largest possible policy artifacts for analysis in three schools to gather more data. However, the Covid-19 pandemic prevented me from doing so because the data was collected online when the schools were closed. Therefore, future researchers could consider adopting the observation method in addition to interviews to obtain more data, which might positively impact the findings of future studies.

7.7 Limitations

The first limitation is that the study sample was confined to male schools only and the design of the study included only three case studies and 15 participants. Thus, this was a small sample size that could easily affect the trustworthiness of the findings. As a result, the findings may not be generalised to all WAD schools and Saudi Arabia schools. Therefore, future research should consider selecting more schools and recruiting more participants, including principals, teachers, Ministry officials, local education officers, policy makers, ICT coordinators, parents and any other person who may present positive contributions to understanding the phenomenon under investigation. If possible, a quantitative research design should be adopted to establish the causal relationship between the contextual dimensions and policy enactment outcomes, as mediated by variables such as the location of the school (rural or urban) and the participants' demographics.

The second limitation is that the language of communication of the research participants is Arabic; thus, I, as researcher, translated the Arabic responses from the interviews into English. Hence, there might be the possibility of losing some of the meaning in translation.

Further, the data used in this study was collected online, when the schools had closed during the Covid-19 pandemic. As data wasn't collected through direct observation, it reflects the participants' personal experience, and so was taken at face value. The data therefore depended on the participants' ability to consider and recognise the elements of their own experiences and to effectively express what they understood via language (Polkinghorne, 2005).

While these limitations are acknowledged and the study's context is accurately presented, they have not negatively affected the efficacy of the research in meeting the research aim. In contrast, the limitations support recognising areas of future study, or guidelines for undertaking future research in such contexts.

Appendix A

Future Gate Project (FGP) Guidelines Policy

The FGP provides a set of educational services: the learning management system through which to provide interactive enriching content for students also enables the teacher to raise homework and worksheets in addition to electronic tests, questions bank, scheduling virtual classes for students, quarterly plan and service to communicate with students and parents. The FGP also provides an electronic preparation service through which the teacher can provide his preparation. Teachers, students and school administration can view the weekly and daily program. It also supports a competitive points system for students to measure interaction and benefit from the FGP (Future Gate Project, 2019).

The policy for guiding school principal and vice principal for activating and using the FGP tools:

First: Preparation and configuration of a digital environment through:
1. Develop the personal knowledge of the school leader through:
    a- Attend development programs on digital transformation
    b- Attend development programs on digital citizenship
    c- Attend training programs explaining how future gateway tools are employed in the process
2. Preparation, writing, and dissemination of the digital transformation plan.
3. Introducing information and awareness programs about the FGP that will define the activated tools for school staff, students, and parents

Second: Support and motivation for DT through:

1. Development programs to improve the performance of school staff to employ the FGP in the educational process
2. Host expert teachers from outstanding schools to share their experiences with school teachers
3. Developing research studies, by conducting studies or assisting researchers in order to develop the work of FGP
4. Encourage DT through incentive competitions among all stakeholders.
5. Publication of school events in the media to motivate beneficiaries to increase the activation of the FGP tools.

Third: Activate the FGP tools through:

1. View the profile of the school principal through the FGP, which includes data about the principal's qualifications and skills

2. Adopting teachers' work through the FGP (such as the preparation of lessons, attendance, and absence)
3. Assess teacher performance in activating the FGP
4. Virtual meetings with beneficiaries
5. Communication with beneficiaries

The policy for guiding teacher for activating and using the FGP tools:

First: Effective use of available technologies including:

1. Manage the educational process, the teacher must be aware of the multiple capabilities of FGP that support the administrative aspect of the educational process.
2. Designing an integrated learning experience, where the design and implementation of the teacher is an educational experience integrated and supportive of active and real learning based on technical tools, one of the most important processes required of the teacher.
3. Solve problems that hinder the educational process.

Second: Support and motivation for DT through:

1. Developing personal knowledge: The teacher needs to develop his knowledge of the available technical means in order to achieve their optimum employment in the educational process.
2. Overcoming technical difficulties facing activating and using modern technologies and transferring these experiences to the field by sharing them with colleagues.
3. Establishing developmental programs that train teachers, students, or administrative staff to use modern technologies available in the educational community.
4. Encouraging and motivating the use of modern technologies.

Third: Building digital content and developing 21st century skills through:

1. Production of digital educational content.
2. Sharing digital educational content.
3. developing 21st century skills through:
   a. Encourage learners to discover and use new digital sources and produce digital resources through works assigned to them.
   b. Encouraging learners to use social media tools and means to expand their true experiences by integrating with experts, groups and students locally and globally through activities provided to them.
   c. Creating learning opportunities that challenge students to innovate and solve problems by using computer design and thinking process through extracurricular activities provided to them.

Fourth: Activate FGP tools through: E-homework, educational activities, e-tests, e-content, panel discussions, lesson preparation, attendance and absence monitoring, virtual classes.

The policy for guiding DT coordinator for activating and using the FGP tools:

First: Preparation and configuration of a digital environment through:

1. Develop the personal knowledge of the school leader through:
   a- Attend development programs on digital transformation
   b- Attend development programs on digital citizenship
   c- Attend training programs explaining how future gateway tools are employed in the process.

2. Assist in providing information and awareness programs on the FGP that will define and activate the utilization of its tools by school staff, students, and parents, as well as introducing the concepts of digital citizenship.

Second: Support and motivation for DT.

Support and motivation towards digital learning is a priority for the DT Coordinator, as she/he assists the school principal in the implementation of the following:

1. Development programs to improve the performance of school staff to employ the FGP in the educational process.
2. Developing research studies, by conducting studies or assisting researchers in order to develop the work of FGP
3. Publishing knowledge, contributing to forming knowledge societies, disseminating knowledge to employees of the educational field in order to develop the educational process through the FGP, by publishing training programs on the employment of the FGP in the educational process, publishing innovative methods and procedures for activation the FGP, Publishing educational digital sources (video clips, question banks, and infographics).

Third: Activate the FGP tools through:

1. View the profile of The DT coordinator through the FGP, which includes data about the DT coordinator's qualifications and skills.
2. Assist principal and vice principal in activating the FGP
3. Virtual meetings with beneficiaries
4. Communication with beneficiaries

Appendix B

Protocol of Interview for School Principal
Study title: *Understanding Policy Enactment of Technology in Saudi Arabia: Three Case Studies in Intermediate Schools Pursuing the Future Gate Project*

Time of interview:

Date:
Place:

Possible Questions for Interview:

- **Introductory Question:**

Q1. What prompted you to respond to the invitation?
Q2. How many years of experience as a principal?
Q3. What is your understanding of FGP?

- **Main Questions**

Q1. Are there policies in place around FGP activation in school, if so give me the major points of the FGP policy in your school?

Q2. Could you explain any preparations in the school for it to be receptive for a digital environment and FGP activation?

Q3. Could you describe your approach in supporting and motivating school stakeholders to activate FGP in educational process? Please, support your answer with examples.

Q4. Could you explain your approach to activate the FGP tools? Please give examples.

Q5. Were there challenges facing FGP activation in school, if so, how did you overcome these challenges? Please, support your answer with examples.

Q6. Could you explain your experiences in activating FGP during Covid19 pandemic?

Protocol of Interview for Teacher:

Study title: *Understanding Policy Enactment of Technology in Saudi Arabia: Three Case Studies in Intermediate Schools Pursuing the Future Gate Project*

Time of interview:

Date:

Place:

Possible Questions for Interview:

- **Introductory Question:**

Q1. What prompted you to respond to the invitation?
Q2. How many years of experience?
Q3. What is your understanding of FGP?

- **Main Questions**

Q1. Could you describe your experience with FGP activation?

Q2. Could you describe your principal's approach when activating FGP?

Q3. Could you describe your principal's approach in supporting and motivating you to implement and activate FGP in the educational process? Please, support your answer by examples.

Q4. Can you provide details how your principal improved the FGP activation in your school? Was there any specific professional learning associated with this?

Q5. What were the challenges of activating FGP in your school or what could have been improved? Please, support your answer by examples.

Q6. Could you explain your principal's plan for activating FGP during Covid19 pandemic?

How did teachers respond?

Appendix C

The Schools' Documents Analysis process

1-

n	Items number	type	Resource	Description and context	Posteriori codes	Themes
1	A-1-1	Picture	school A' Twitter Official account	School A tweeted on its Twitter account about conducting Part 1 of training program for school teachers on how to activate FGP tools	Teachers training program	**Preparing school environment**
2	A-1-2	Picture		School A tweeted on its Twitter account about conducting Part 2 of training program for school teachers on how to activate FGP tools		
3	A-1-3	Picture		Training program for school teachers on how to activate FGP tools by school coordinator of FG	Preparing school environment	
4	A-1-4	Picture				
5	A-1-5	Picture				
6	A-1-6	Picture				
7	A-1-7	Picture				
8	A-1-8	Picture		School A tweeted on its Twitter account about conducting final part of training program for school teachers on how to activate FGP tools		
9	A-2-1	Picture		School principal A tweeted on the school's Twitter account that he thanks teachers for achieving high levels among district schools in FGP activation	Thank teachers for FGP activation	**Motivating**

				School A tweeted on the school's Twitter account thanking teachers activated FGP tools		
10	A-2-2	Picture		School A tweeted on the school's Twitter account thanking teachers activated FGP tools		
11	A-2-3	Picture	Sending by School A principal	School A principal sending WhatsApp messages to teachers for motivating them to activate the FGP tools	Motivating WhatsApp messages for teachers	
12	A-2-4	Picture		School A principal honours teachers	Honor teachers	
13	A-2-5	Picture	school A' Twitter Official account	School A tweeted on the school's Twitter account encouraging parents to urge their kids to activate FGP tools	encouraging parents	
14	A-3-1	Picture	Sending by School A principal	The report showing the School A (evening school) level among city schools in Unified learning system activation	High level of distance learning activation in School A during Covid-19 pandemic	**Distance learning activation during Covid-19 pandemic**
15	A-3-2	Picture		The report showing the School A level (evening school) among city schools in Unified learning system activation		
16	B-1-1	Picture	Sending by school teacher B3	The educational supervisors with city governor visited School B during Covid 19 pandemic	Preparing school environment	**The effect of Covid-19 pandemic**
17	B-1-2					
18	B-1-3					
19	B-1-4	Video		The educational supervisors with city governor visited School B during Covid 19 pandemic and attended the virtual class through Madrasati platform		**Preparing school environment**
20	B-1-5			School teacher B3 doing virtual class through Madrasati platform		
21	C-1-1	Picture	Sending by School C principal	School C coordinator of digital transformation had a certificate of online supportive workshop program on FGP	Teachers training program	**Preparing school environment**

22	C-1-2			School C principal had a certificate of online supportive workshop program on FGP	Principals' training program	
23	C-2-1	Picture	Sending by School C principal	The picture showing technical equipment in one School C class	preparing school environment	
24	C-3-1			School C level among Saudi School in distance learning activation	good level of distance learning activation	**The effect of Covid-19 pandemic**
25	C-4-1			The report of School C teachers' achievement in FGP activation	FGP activation	**FGP policy activation**
26	C-4-2			The report of School C teachers' lectures through FGP platform	Low level of FGP activation	
27	E-1-1			Education Department making WhatsApp group of schools' digital transformation coordinators for technical support in FGP activation	Technical support for schools	**Preparing school environment**
28	E-1-2	Pictures	Sending by School C principal			
29	E-1-3					
30	E-1-4	Picture	School A's Twitter official account	School A & B letters of thanks from Education Department	Thank schools for FGP activation	**Motivating**
31	E-1-5	Picture	Education Department's Twitter official account	Manager of Education department visited schools to check the schools' readiness to return during Covid-19 pandemic	Preparing school environment	**The effect of Covid-19 pandemic** **Preparing school environment**
32	M-1-1	Picture	FGP's Twitter official account	Ministry of Education provided 5 choices of distance learning during Covid-19	Distance learning during Covid-19 pandemic	**The effect of Covd-i19 pandemic**
33	M-1-2	Pictures				

32	M-1-2-1		FGP's Twitter official account	Statistic of distance learning platforms users in Saudi schools during Covid-19 pandemic		**Distance learning activation during Covid19 Pandemic**
33	M-1-3	Pictures		FGP tweeted about renewing the password of Noor platform to enter into FGP account during Covid-19 Pandemic	FGP technical support for students	**Preparing school environment**
44	M-1-3-1					
45	M-1-4	Picture		Statistic of FGP activation in the beginning of Covid-19	FGP activation	**FGP policy activation**
46	M-1-5	Pictures	Education minister's Twitter official account	The second activation stage of FGP	FGP activation	
47	M-1-5-1					
48	M-1-6	Pictures	FGP's Twitter official account	The technical steps to enter the FGP platform	FGP technical support for students	**Preparing school environment** Technical support
49	M-1-6-1					
50	M-1-7	Picture	FGP's Twitter official account	FGP tools for teachers and students	FGP policy for teachers and students	**FGP policy activation**
51	M-1-8	Pictures	Education ministry's Twitter official account	School suspended during Covid-19 Pandemic from Monday 9/3/220	School suspended during Covid-19	**The effect of Covid-19 pandemic**
52	M-1-8-1					
53	M-1-8-2			Statistics of three days activation of FGP after schools suspended during Covid-19 pandemic	FGP activation during Covid-19	**Distance learning activation during Covid-19 pandemic**
54	M-1-8-2-1			The report of 3 days activation of FGP after schools suspended during Covid-19 pandemic		School suspended during Covid-19
55	M-1-8-2-1-1					

No	Code	Type	Source	Description	Sub-theme	Theme
56	M-1-8-3			The report of one week activation of FGP after schools suspended during Covid-19 pandemic		
57	M-1-8-4					
58	M-1-8-5			Ministry of Education tweeted about the learning approach of school return after school suspension during Covid-19 pandemic that the learning will be distance in the first 7 weeks		
60	M-1-8-6			The Saudi Education Ministry report of distant learning experience during Covid-19 pandemic presenting in the conference of Gulf's education ministers		
61	M-1-8-6-1					
62	M-1-8-7			The 2 kinds of distance learning during Covid-19 Pandemic: asynchronous learning & interactive learning		
63	M-1-8-7-1					
64	M-1-8-8			Statistics of almost 2 months activation of FGP after schools suspended during Covid-19 pandemic		
65	M-1-8-8-1					
66	M-1-8-9	Pictures	FGP's Twitter Official account	Ministry of Education provided five choices of distance learning during Covid-19	Distance learning during Covid-19 pandemic	
67	M-1-8-9-1					
68	M-1-8-9-2-		Education ministry's Twitter Official account	Journalist report that Ministry of Education provided five choices of distance learning during Covid-19		
69	M-1-8-9-3					
70	M-1-8-10		TETCO's Twitter Official account	The operating company (TETCO) of the FGP twitted about providing the teachers online training program in the virtual 71	Teachers training program	**Preparing school environment**

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				classes' activation during Covid-19 pandemic		
71	M-1-8-11		Education ministry's	Virtual classes schedule of Grade 1-3 in Ien channels during Covid-19 Pandemic		
72	M-1-8-11-1			Number of Ien channels		
73	M-1-8-12		Education minister's Twitter official account	Transfer all student to the next grade during Covid-19 pandemic after completing the educational subjects by distance learning	Distance learning during Covid-19 pandemic	**The effect of Covid-19 pandemic**
74	M-1-8-13		Twitter Official account of WA Education Department	The students' journey through Madrasati platform		
75	M-1-8-13-1			The teachers journey through Madrasti platform		
76	D-1-1	PDF fiels	Education Ministry Web	The general guide for the schools to activate the tools of the FGP	FGP policy for teachers, school vice and school principal	**FGP policy activation**
77	D-1-2			The guide for the school teacher to activate the tools of the FGP		
78	D-1-3-			The guide for the school leader and Vice to activate the FGP tools		

The results of schools' Documents Analysis

n	Schools	Main themes	Subthemes
1	School A School B School C	**Preparing school environment**	Training program for principals and teachers
			Technical support
2	School A	**Motivating**	Thank and honour teachers
			Motivating text messages for teachers
			Encouraging parents
3	School A School B School C	**The effect of Covid-19 pandemic**	Suspending of FGP policy
			Distance learning activation during Covid-19 pandemic

References

Akkary, R. K. (2014). Facing the challenges of educational reform in the Arab world. *Journal of educational change*, *15*(2), 179-202. https://doi.org/10.1007/s10833-013-9225-6

Al-Dhiabi, A. K. (2020). Why did the "Future Gate Project" disappear from the "distance education" scene? . *Okaz Newspaper*. https://www.okaz.com.sa/news/local/2040960

Al-Faleh, N. A. (2012). The use of digital technology in Saudi Arabia'schools. Internation Conference on forensic computer science and cyber Law,

Al-Maini, Y. H. (2013). Issues in Integrating Information Technology in Learning and Teaching EFL: The Saudi Experience. *EuroCALL Review*, *21*(2), 49-55. https://doi.org/10.4995/eurocall.2013.9790

Al-Samiri, R. A. (2021). English Language Teaching in Saudi Arabia in Response to the COVID-19 Pandemic: Challenges and Positive Outcomes. *Arab World English Journal (AWEJ) Special Issue on Covid*, 19. https://files.eric.ed.gov/fulltext/EJ1311319.pdf

Al Harbi, H. E. M. (2014). *An examination of Saudi high school teachers' ICT knowledge and implementation* Queensland University of Technology]. https://core.ac.uk/download/pdf/33496111.pdf

Al Mofarreh, Y. I. (2016). *Implementation of ICT policy in secondary schools in Saudi Arabia* https://ro.uow.edu.au/cgi/viewcontent.cgi?article=5731&context=theses

Al Mulhim, E. (2014). The Barriers to the Use of ICT in Teaching in Saudi Arabia: A Review of Literature. *Universal Journal of Educational Research*, *2*(6), 487-493. https://files.eric.ed.gov/fulltext/EJ1053950.pdf

Al Ohali, Y., Al Suhaibani, A., Palavitsinis, N., & Koutoumanos, A. (2018). Digital transformation of education in the kingdom of saudi arabia: Deploying a country-wide learning management system for k-12 education. Kidmore End.

Albadi, N. M., Harkins, J., & O'Toole, J. M. (2019). Recent Reforms in Saudi Secondary Science Education: Teacher and Student Perceptions of Grade 10 Physics. *International journal of science and mathematics education*, *17*(4), 701-721. https://doi.org/10.1007/s10763-018-9881-3

Albalawi, F. (2021). Crossing the digital divide: ICT implementation in the Al-Ula District. *Technium Soc. Sci. J.*, *18*, 135. https://heinonline.org/HOL/Page?handle=hein.journals/techssj18&div=13&g_sent=1&casa_token=&collection=journals

Albugami, S., & Ahmed, V. (2015). Success factors for ICT implementation in Saudi secondary schools: From the perspective of ICT directors, head teachers, teachers and students. *International Journal of Education and Development using ICT*, *11*(1). https://www.proquest.com/docview/1681507463?pq-origsite=primo&accountid=10910

Alenezi, A. (2017). Technology leadership in Saudi schools. *Education and Information Technologies*, *22*(3), 1121-1132. https://www.proquest.com/docview/1899838533?pq-origsite=primo&accountid=10910

Alghamdi, S., Parkes, M., & Reyes, V. (2018). *The effect of EFL teachers' Technological Pedagogical Content Knowledge (TPACK) on EFL teaching in Saudi Arabian Secondary Schools* University of New England, Australia. https://doi.org/10.25952/5b482e93617c0

Alghamdi, S. R., & Bayaga, A. (2016). Use and attitude towards learning management systems (LMS) in Saudi Arabian universities. *Eurasia Journal of Mathematics, Science and Technology Education*, *12*(9), 2309-2330. https://www.ejmste.com/download/use-and-attitude-towards-learning-management-systems-lms-in-saudi-arabian-universities-4603.pdf

Alharbi, A. (2017). How have policy makers responded to the current state of ICT in schools in Saudi Arabia? A Qualitative Investigation. https://eprints.gla.ac.uk/141583/7/141583.pdf

Alharbi, A. R. (2019). *The Current State of Teachers' Ict Use in Classrooms in Boys' Secondary Schools in Saudi Arabia* ProQuest Dissertations Publishing]. https://www.proquest.com/docview/2579471289?pq-origsite=primo

Alharthi, A. A. S. (2018). *An Evaluation of ICT Integration in Science Learning in Primary Schools in Saudi Arabia* Curtin University]. https://espace.curtin.edu.au/bitstream/handle/20.500.11937/75840/Alharthi%20A%202018.pdf?sequence=1&isAllowed=y

Aljuaid, H. (2016). *Technology in Education between Saudi Arabia and the US: The Interactive Whiteboard and iPad* ProQuest Dissertations Publishing]. https://www.proquest.com/docview/1814765470?pq-origsite=primo

Alkahtani, A. (2017). The challenges facing the integration of ICT in teaching in Saudi secondary schools. *International journal of education and development using information and communication technology*, *13*(1), 32-51. https://www.proquest.com/docview/1952423811?pq-origsite=primo&accountid=10910

Alkhalifah, T. (2018). *An investigation of the acceptance of mobile learning by high school students in the K-12 context in the Kingdom of Saudi Arabia* Doctor of Philosophy, Thesis (Doctorate)]. https://theses.flinders.edu.au/view/4c22c5c7-9452-4c30-afc7-ea8e11aff7d1/1

Alkhater, L. R. M. (2016). Qatar's Borrowed K-12 Education Reform in Context. In (pp. 97-130). Palgrave Macmillan UK. https://doi.org/10.1057/978-1-137-46639-6_4

Alkrdem, M. (2014). Technological leadership Behavior of high school headteachers in Asir Region, Saudi Arabia. *10*(2), 95. https://www.proquest.com/docview/1516960586?pq-origsite=primo&accountid=10910

Almannie, M. (2015). Cases Encountered: the Development of Public Education in Saudi Arabia. International Conference on Trends in Social Sciences and Humanities (TSSH-2015) August,

Alreshidi, N. A. K. (2016). *Investigating problem-based learning in saudi arabian mathematics education: a timss-related study* ProQuest Dissertations Publishing]. https://www.proquest.com/docview/1896365545?pq-origsite=primo

Alroqi, T. M. (2021). *An investigation into the acceptance of augmented reality in Saudi Arabian schools* University of Leeds]. https://www.proquest.com/docview/2607322604?pq-origsite=primo

AlSharija, M. (2012). *Leadership practices of Kuwaiti Secondary School Principals for embedding ICT / Mohammed Al-Sharija* https://eprints.qut.edu.au/53276/1/Mohammed_Al-Sharija_Thesis.pdf

Alyami, R. (2014). Educational reform in the Kingdom of Saudi Arabia: Tatweer schools as a unit of development. *Literacy Information*

Computer Education Journal, *5*(2), 1424-1433. https://doi.org/10.20533/licej.2040.2589.2014.0202

Alzaidi, A. M. (2008). SECONDARY SCHOOL HEAD TEACHERS'JOB SATISFACTION IN SAUDI ARABIA: THE RESULTS OF A MIXED METHODS APPROACH. *Annual Review of Education, Communication & Language Sciences*, *5*. https://research.ncl.ac.uk/media/sites/researchwebsites/arecls/alzaidi_vol5.pdf

Alzain, E. (2021). Examining Saudi Studentsâ€™ Perceptions on the Use of the Blackboard Platform during the COVID-19 Pandemic. *International Journal of Learning, Teaching and Educational Research*, *20*(6). https://doi.org/10.26803/ijlter.20.6.6

Amez, S., Vujić, S., De Marez, L., & Baert, S. (2023). Smartphone use and academic performance: First evidence from longitudinal data. *New media & society*, *25*(3), 584-608. https://doi.org/10.1177/14614448211012374

Anderson, C., Foley, Y., Sangster, P., Edwards, V., & Rassool, N. (2016). *Policy, pedagogy and pupil perceptions: EAL in Scotland and England* (Cambridge: Bell Foundation, Issue. https://www.bell-foundation.org.uk/app/uploads/2017/05/Policy-Pedagogy-and-Pupil-Perceptions-Final-full-report.-Web-Version.-pdf.pdf

Andres, P., & Svoboda, P. (2019, 2019). Development of Digital Competences of Teachers of Social Sciences at Secondary Vocational Schools.*Advances in Intelligent Systems and Computing* Cham.

Arab News. (2020). Distance learning is here to stay, Saudi education minister says. https://www.arabnews.com/node/1766716/saudi-arabia

Baert, S., Vujić, S., Amez, S., Claeskens, M., Daman, T., Maeckelberghe, A., Omey, E., & De Marez, L. (2020). Smartphone Use and Academic Performance: Correlation or Causal Relationship? *Kyklos (Basel)*, *73*(1), 22-46. https://doi.org/10.1111/kykl.12214

Ball, S. J., Maguire, M., & Braun, A. (2012). *How Schools Do Policy : Policy Enactments in Secondary Schools* (1st ed. ed.). Taylor & Francis Group. https://doi.org/10.4324/9780203153185

Ball, S. J., Maguire, M., Braun, A., & Hoskins, K. (2011a). Policy actors: doing policy work in schools. *Discourse (Abingdon, England)*, *32*(4), 625-639. https://doi.org/10.1080/01596306.2011.601565

Ball, S. J., Maguire, M., Braun, A., & Hoskins, K. (2011b). Policy subjects and policy actors in schools: some necessary but insufficient analyses. *Discourse: Studies in the Cultural Politics of Education*, *32*(4), 611-624. https://doi.org/10.1080/01596306.2011.601564

Banoglu, K. (2011). School Principals' Technology Leadership Competency and Technology Coordinatorship. *Educational Sciences: Theory and Practice*, *11*(1), 208-213. https://www.proquest.com/docview/861328188?accountid=10910&pq-origsite=primo&parentSessionId=XtJxEbNJOMqBDqyq3Xb5WuOhpA4QZL3f0vIAUjcS80c%3D

Barrera, A. R. (2013). *Beyond policy implementation: Policy sense making and policy enactment in schools* [Doctoral dissertation, University of Alberta (Canada)]. https://era.library.ualberta.ca/items/1cbbd0ef-7027-4a78-a8b7-33bce09396d6

Beland, L.-P., & Murphy, R. (2016). Ill Communication: Technology, distraction & student performance. *Labour economics*, *41*, 61-76. https://doi.org/10.1016/j.labeco.2016.04.004

Bentham, G. (2020). "That's my kind of ideal but that's not necessarily what happens" A Case Study of English as an Additional Language (EAL) Policy Enactment in a UK Primary School: Policy, Understanding and Practice. https://doi.org/10.17863/CAM.58321

Bingimlas, K. A. (2009). Barriers to the successful integration of ICT in teaching and learning environments: A review of the literature. *Eurasia Journal of Mathematics,*

science and technology education, *5*(3), 235-245. https://doi.org/10.12973/ejmste/75275

Blandford, A., Furniss, D., & Makri, S. (2016). *Qualitative HCI Research: Going Behind the Scenes*. Springer International Publishing. https://link.springer.com/chapter/10.1007/978-3-031-02217-3_7

Blumenfeld, P., Fishman, B. J., Krajcik, J., Marx, R. W., & Soloway, E. (2000). Creating Usable Innovations in Systemic Reform: Scaling Up Technology-Embedded Project-Based Science in Urban Schools. *Educational psychologist*, *35*(3), 149-164. https://doi.org/10.1207/S15326985EP3503_2

Bowen, G. A. (2009). Document Analysis as a Qualitative Research Method. *Qualitative research journal*, *9*(2), 27-40. https://doi.org/10.3316/QRJ0902027

Bradbury, A., Braun, A., Duncan, S., Harmey, S., Levy, R., & Moss, G. (2022). Crisis policy enactment: primary school leaders' responses to the Covid-19 pandemic in England. *Journal of education policy*, *ahead-of-print*(ahead-of-print), 1-21. https://doi.org/10.1080/02680939.2022.2097316

Braun, A., Ball, S. J., & Maguire, M. (2011). Policy enactments in schools introduction: towards a toolbox for theory and research. *Discourse (Abingdon, England)*, *32*(4), 581-583. https://doi.org/10.1080/01596306.2011.601554

Braun, A., Maguire, M., & Ball, S. J. (2010). Policy enactments in the UK secondary school: examining policy, practice and school positioning. *Journal of education policy*, *25*(4), 547-560. https://doi.org/10.1080/02680931003698544

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, *11*(4), 589-597. https://doi.org/10.1080/2159676X.2019.1628806

Brown, B. (2021). 'Steering at a distance', Australian school principals' understandings of digital technologies policies during the Digital Education Revolution. *Journal of Educational Administration and History*, *53*(1), 50-66. https://doi.org/10.1080/00220620.2020.1856796

Bush, T., & Glover, D. (2003). School leadership: Concepts and evidence. https://dera.ioe.ac.uk/id/eprint/5119/14/dok217-eng-School_Leadership_Concepts_and_Evidence_Redacted.pdf

Bush, T., & Glover, D. (2014). School leadership models: what do we know? *School leadership & management*, *34*(5), 553-571. https://doi.org/10.1080/13632434.2014.928680

Candido, H. H. D. (2020). Datafication in schools: enactments of quality assurance and evaluation policies in Brazil. *International studies in sociology of education*, *29*(1-2), 126-157. https://doi.org/10.1080/09620214.2019.1656101

Chen, F. H., Looi, C. K., & Chen, W. (2009). Integrating technology in the classroom: a visual conceptualization of teachers' knowledge, goals and beliefs: Integrating technology in the classroom. *Journal of computer assisted learning*, *25*(5), 470-488. https://doi.org/10.1111/j.1365-2729.2009.00323.x

Clifford, M. (2010). Hiring Quality School Leaders: Challenges and Emerging Practices. *Learning Point Associates*. https://files.eric.ed.gov/fulltext/ED509949.pdf

Creswell. (2012). *Educational research : planning, conducting, and evaluating quantitative and qualitative research* (Sixth edition. ed.). New York, NY : Pearson.

Creswell. (2014). *Educational research : planning, conducting, and evaluating quantitative and qualitative research* (Fourth, Pearson new international edition. ed.). Pearson.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.

Crotty, M. (1998). *The foundations of social research : meaning and perspective in the research process*. Allen & Unwin.

Crowe, S., Cresswell, K., Robertson, A., Huby, G., Avery, A., & Sheikh, A. (2011). The case study approach. *BMC Medical Research Methodology*, *11*(1), 100-100. https://doi.org/10.1186/1471-2288-11-100

Day, C., Gu, Q., & Sammons, P. (2016). The impact of leadership on student outcomes: How successful school leaders use transformational and instructional strategies to make a difference. *Educational administration quarterly*, *52*(2), 221-258. https://doi.org/10.1177/0013161X15616863

Deraney, P. M., & Abdelsalam, H. M. (2012). PRIVATE VS. PUBLIC SCHOOL EDUCATION AS A PREDICTOR FOR SUCCESS FOR FEMALE STUDENTS AT A PRIVATE UNIVERSITY IN SAUDI ARABIA. *Researchers world - journal of arts science and commerce*, *3*(3), 1. https://www.proquest.com/docview/1034611845?accountid=10910&pq-origsite=primo&parentSessionId=OPT9S%2BEV99%2BVLaV%2BbP5K1C0sh1p xhzvkGXbHEWSnWQQ%3D

Dorner, L. M., Harris, K., & Willoughby, B. (2022). Policy Enactment During a Pandemic: How One School Responded to COVID-19 in Negotiation With a Nonprofit Partner. *AERA open*, *8*, 233285842210783. https://doi.org/10.1177/23328584221078328

Dou, D., Devos, G., & Valcke, M. (2017). The relationships between school autonomy gap, principal leadership, teachers' job satisfaction and organizational commitment. *Educational management, administration & leadership*, *45*(6), 959-977. https://doi.org/10.1177/1741143216653975

Elstad, E. (2016). Educational Technology in Schools: Policymaking and Policy Enactment. In (pp. 47-57). SensePublishers. https://doi.org/10.1007/978-94-6300-648-4_3

Falabella, A. (2020). The ethics of competition: accountability policy enactment in Chilean schools' everyday life. *Journal of education policy*, *35*(1), 23-45. https://doi.org/10.1080/02680939.2019.1635272

Faridi, M. R., & Ebad, R. (2018). Transformation of higher education sector through massive open online courses in Saudi Arabia. *Problems and Perspectives in Management*, *16*(2), 220-231. https://doi.org/10.21511/ppm.16(2).2018.20

Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating Rigor Using Thematic Analysis: A Hybrid Approach of Inductive and Deductive Coding and Theme Development. *International journal of qualitative methods*, *5*(1), 80-92. https://doi.org/10.1177/160940690600500107

Fishman, B., Best, S., Foster, J., & Marx, R. (2000). Fostering teacher learning in systemic reform: a design proposal for developing professional development. https://files.eric.ed.gov/fulltext/ED442635.pdf

Flick, U. (2015). *Introducing research methodology: A beginner's guide to doing a research project*. SAGE.

Fullan, M. (2005). Turnaround Leadership. *The Educational forum (West Lafayette, Ind.)*, *69*(2), 174-181. https://doi.org/10.1080/00131720508984681

Fullan, M., Lieberman, A., & Fullan, M. (2005). *Fundamental Change : International Handbook of Educational Change*. Dordrecht: Springer. https://doi.org/10.1007/1-4020-4454-2

Fullan, M., McKenzie, W. B., Getty, & Hamilton, J. (2014). *The principal : three keys to maximizing impact* (First edition. ed.). Jossey-Bass. https://ebookcentral.proquest.com/lib/flinders/detail.action?pq-origsite=primo&docID=1603261

Future Gate Project. (2019). *A guide for the school to activate the tools of the Future Gate Project*. Retrieved from https://fg.moe.gov.sa/#Welcome and is stored in https://n9.cl/pids7

Gill, P., Burnard, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Analysing and presenting qualitative data. *British Dental Journal*, *204*(8), 429-432. https://doi.org/10.1038/sj.bdj.2008.292

Glackin, M., & Greer, K. (2021). Environmental Education-related Policy Enactment in Japanese High Schools. *Journal of education for sustainable development*, *15*(2), 165-185. https://doi.org/10.1177/09734082211031325

Gray, D. E. (2014). *Doing research in the real world* (3rd edition. ed.). SAGE.

Hallinger, P., & Heck, R. H. (2009). Distributed Leadership in Schools: Does System Policy Make a Difference? In (pp. 101-117). Springer Netherlands. https://doi.org/10.1007/978-1-4020-9737-9_6

Hao, Y., & Lee, K. S. (2017). Inquiry of pre-service teachers' concern about integrating Web 2.0 into instruction. *European Journal of Teacher Education*, *40*(2), 191-209. https://doi.org/10.1080/02619768.2017.1285278

Harris, A. (2008). Distributed leadership: according to the evidence. *Journal of educational administration*, *46*(2), 172-188. https://doi.org/10.1108/09578230810863253

Harris, A. (2009). *Distributed Leadership Different Perspectives* (1st 2009. ed.). Springer Netherlands. https://doi.org/10.1007/978-1-4020-9737-9

Harris, A. (2013). Distributed leadership: Friend or foe? *Educational Management Administration & Leadership*, *41*(5), 545-554. https://doi.org/10.1177/1741143213497635

Hassoun, D. (2015). "All over the place": A case study of classroom multitasking and attentional performance. *New media & society*, *17*(10), 1680-1695. https://doi.org/10.1177/1461444814531756

Hattie, J. (2009). *Visible learning : a synthesis of over 800 meta-analyses relating to achievement*. Routledge. https://ebookcentral.proquest.com/lib/flinders/detail.action?pq-origsite=primo&docID=367685

Heffernan, A. (2018). The influence of school context on school improvement policy enactment: an australian case study. *International journal of leadership in education*, *21*(6), 621-632. https://doi.org/10.1080/13603124.2018.1463461

Herbert, A. (2020). Contextualising policy enactment in regional, rural and remote Australian schools : A review of the literature. *Australian and international journal of rural education*, *30*(1), 64-81. https://doi.org/10.3316/aeipt.226449

Hew, K. F., & Brush, T. (2007). Integrating Technology into K-12 Teaching and Learning: Current Knowledge Gaps and Recommendations for Future Research. *Educational technology research and development*, *55*(3), 223-252. https://doi.org/10.1007/s11423-006-9022-5

Innes, M. (2022). The micro-politics of the enactment of a school literacy policy. *Oxford review of education*, *48*(1), 63-77. https://doi.org/10.1080/03054985.2021.1912721

Kalolo, J. (2019). Digital revolution and its impact on education systems in developing countries. *The Official Journal of the IFIP Technical Committee on Education*, *24*(1), 345-358. https://doi.org/10.1007/s10639-018-9778-3

Klar, H. W., & Brewer, C. A. (2013). Successful Leadership in High-Needs Schools: An Examination of Core Leadership Practices Enacted in Challenging Contexts. *Educational administration quarterly*, *49*(5), 768-808. https://doi.org/10.1177/0013161X13482577

Kuznekoff, J. H., Munz, S., & Titsworth, S. (2015). Mobile Phones in the Classroom: Examining the Effects of Texting, Twitter, and Message Content on Student Learning. *Communication education*, *64*(3), 344-365. https://doi.org/10.1080/03634523.2015.1038727

LaBonte, R. (2005). *Leadership and educational technologies: Leading the charge for e-learning in British Columbia schools* University of British Columbia]. https://open.library.ubc.ca/media/download/pdf/831/1.0055629/1

Lambert, K., & Penney, D. (2020). Curriculum interpretation and policy enactment in health and physical education: researching teacher educators as policy actors. *Sport, education and society*, *25*(4), 378-394. https://doi.org/10.1080/13573322.2019.1613636

Leanne, M. W., Bernadette, S., & Nerina, V. (2020). Application of Rigour and Credibility in Qualitative Document Analysis: Lessons Learnt from a Case Study. *Qualitative report*, *25*(2), 456-470. https://www.proquest.com/docview/2375475754?accountid=10910&pq-origsite=primo&parentSessionId=6PxbLc6qdvn%2BSqwv1ivwvy3ZtEbpY8IPjz9ecuRXQgc%3D

Lee, S., McDonough, I. M., Mendoza, J. S., Brasfield, M. B., Enam, T., Reynolds, C., & Pody, B. C. (2021). Cellphone addiction explains how cellphones impair learning for lecture materials. *Applied cognitive psychology*, *35*(1), 123-135. https://doi.org/10.1002/acp.3745

Leithwood, K., & Jantzi, D. (2006). Transformational school leadership for large-scale reform: Effects on students, teachers, and their classroom practices. *School effectiveness and school improvement*, *17*(2), 201-227. https://doi.org/10.1080/09243450600565829

Leithwood, K., Sun, J., & Schumacker, R. (2020). How School Leadership Influences Student Learning: A Test of "The Four Paths Model". *Educational administration quarterly*, *56*(4), 570-599. https://doi.org/10.1177/0013161X19878772

Leung, C. (2016). English as an additional language - a genealogy of language-in-education policies and reflections on research trajectories. *Language and education*, *30*(2), 158-174. https://doi.org/10.1080/09500782.2015.1103260

MacLeod, P., & Abou-El-Kheir, A. (2016). Qatar's English Education Policy in K-12 and Higher Education: Rapid Development, Radical Reform and Transition to a New Way Forward. In (pp. 171-197). Springer International Publishing. https://doi.org/10.1007/978-3-319-46778-8_11

Maguire, M., Braun, A., & Ball, S. J. (2015). 'Where you stand depends on where you sit': the social construction of policy enactments in the (English) secondary school. *Discourse (Abingdon, England)*, *36*(4), 485-499. https://doi.org/10.1080/01596306.2014.977022

Mårell-Olsson, E., & Bergström, P. (2018). Digital transformation in Swedish schools–Principals' strategic leadership and organisation of tablet-based one-to-one computing initiatives. Seminar. net,

Mathis, B. K. (2010). *Educational leadership: A description of Saudi female principals in the Eastern Province of Saudi Arabia* ProQuest Dissertations Publishing]. https://www.proquest.com/docview/854983326?pq-origsite=primo

Mays, N., & Pope, C. (1995). Rigour and qualitative research. *BMJ. British medical journal (International ed.)*, *311*(6997), 109-112. https://doi.org/10.1136/bmj.311.6997.109

McChesney, K., & Aldridge, J. (2019). Weaving an interpretivist stance throughout mixed methods research. *International journal of research & method in education*, *42*(3), 225-238. https://doi.org/10.1080/1743727X.2019.1590811

Mills, A., Durepos, G., & Wiebe, E. (2010). *Encyclopedia of case study research*. https://doi.org/10.4135/9781412957397

Ministry of Education. (2023a). *Archive of Bylaws and Regulations in Ministry of Education*. Retrieved from https://www.moe.gov.sa/en/aboutus/aboutministry/pages/rpr.aspx

Ministry of Education. (2023b). *Education Departments*. https://edu.moe.gov.sa/Pages/default.aspx

Ministry of Education. (2023c). *Noor System*. https://noor.moe.gov.sa/Landing/Home.html

Ministry of Education. (2023d). *The purpose and general goals of education*. Retrieved from https://www.moe.gov.sa/en/education/educationinksa/pages/educationobjectives.aspx

Ministry of Education. (2023e). *Saudi EducationMinistry : Vision, Mission and Goals*. Education Ministry in Saudi Arabia Retrieved from https://moe.gov.sa/en/aboutus/aboutministry/pages/visionmissiongoals.aspx

Ministry of Interior. (2023). *Emirate of Riyadh Province*. shorturl.at/loMOP

Mohamed, N. (2021). The agentive role of preschool leaders in language policy enactment: case studies of acceptance and resistance. *Current issues in language planning*, *22*(1-2), 225-242. https://doi.org/10.1080/14664208.2019.1700057

Momani, A. M. (2020). The unified theory of acceptance and use of technology: A new approach in technology acceptance. *International Journal of Sociotechnology and Knowledge Development (IJSKD)*, *12*(3), 79-98. http://research.skylineuniversity.ac.ae/id/eprint/64/1/2.pdf

Morgan, H. (2022). Conducting a Qualitative Document Analysis. *Qualitative report*, *27*(1), 64-77. https://doi.org/10.46743/2160-3715/2022.5044

Ni, Y., Yan, R., & Pounder, D. (2018). Collective Leadership: Principals' Decision Influence and the Supportive or Inhibiting Decision Influence of Other Stakeholders. *Educational administration quarterly*, *54*(2), 216-248. https://doi.org/10.1177/0013161X17723427

Nuzhat, S. (2021). Globalization of Education in UAE: The Local Legislative Education Policies for International Branch Campuses and Its Tensions Given the Political, Religious, and Cultural Differences. *Journal of education (Boston, Mass.)*, *201*(3), 236-247. https://doi.org/10.1177/0022057420914917

OECD. (2020). *Education in Saudi Arabia : reviews of national policies for education*. Organisation for Economic Co-operation and Development. https://www-oecd--ilibrary-org.eu1.proxy.openathens.net/education/education-in-saudi-arabia_76df15a2-en

Olarte, O. (2015). *Abu Dhabi rolls out new school model*. https://www.khaleejtimes.com/nation/education/abu-dhabi-rolls-out-new-school-model

OLC. (2020). *K-12 Online Learning in Saudi Arabia*. O. L. Consortium. https://onlinelearningconsortium.org/read/k12onlinelearning-sa/

Oraif, I., & Elyas, T. (2021). The Impact of COVID-19 on Learning: Investigating EFL Learners' Engagement in Online Courses in Saudi Arabia. *Education Sciences*, *11*(3), 99. https://doi.org/10.3390/educsci11030099

Ott, T. (2017). Mobile phones in school: From disturbing objects to infrastructure for learning. https://gupea.ub.gu.se/bitstream/handle/2077/53361/gupea_2077_53361_1.pdf?sequence=1

Ott, T., Magnusson, A. G., Weilenmann, A., & Hård af Segerstad, Y. (2018). "It must not disturb, it's as simple as that": Students' voices on mobile phones in the

infrastructure for learning in Swedish upper secondary school. *Education and information technologies*, *23*(1), 517-536. https://doi.org/10.1007/s10639-017-9615-0

Oyaid, A. (2009). *Education policy in Saudi Arabia and its relation to secondary school teachers' ICT use, perceptions, and views of the future of ICT in education* https://ore.exeter.ac.uk/repository/handle/10036/69537

Parkman, S., Litz, D., & Gromik, N. (2018). Examining pre-service teachers' acceptance of technology-rich learning environments: A UAE case study. *Education and information technologies*, *23*(3), 1253-1275. https://doi.org/10.1007/s10639-017-9665-3

Polkinghorne, D. E. (2005). Language and Meaning: Data Collection in Qualitative Research. *Journal of counseling psychology*, *52*(2), 137-145. https://doi.org/10.1037/0022-0167.52.2.137

Power, S., & Taylor, C. (2021). School exclusions in Wales: policy discourse and policy enactment. *Emotional and behavioural difficulties*, *26*(1), 19-30. https://doi.org/10.1080/13632752.2021.1898761

Raman, A., Don, Y., Khalid, R., Hussin, F., Omar, M. S., & Ghani, M. (2014). Technology acceptance on smart board among teachers in terengganu using UTAUT model. *Asian social science*, *10*(11), 84-91. https://doi.org/10.5539/ass.v10n11p84

Raman, A., & Thannimalai, R. (2019). Importance of technology leadership for technology integration: Gender and professional development perspective. *SAGE Open*, *9*(4), 2158244019893707. https://doi.org/10.1177/2158244019893707

Robinson, V. M. J., Lloyd, C. A., & Rowe, K. J. (2008). The impact of leadership on student outcomes : an analysis of the differential effects of leadership types. *Educational administration quarterly*, *44*(5), 635-674. https://doi.org/10.1177/0013161X08321509

Roller, M. R., & Lavrakas, P. J. (2015). *Applied qualitative research design : a total quality framework approach*. The Guilford Press.

Romanowski, M. H., & Du, X. (2022). Education transferring and decentralized reforms: The case of Qatar. *Prospects (Paris)*, *52*(3-4), 285-298. https://doi.org/10.1007/s11125-020-09478-x

Romanowski, M. H., Sadiq, H., Abu-Tineh, A. M., Ndoye, A., & Aql, M. (2020). Principal selection for Qatar's government schools: Policy makers', principals' and teachers' perspectives. *Educational management, administration & leadership*, *48*(5), 893-915. https://doi.org/10.1177/1741143219859006

Scanlon, D., MacPhail, A., & Calderón, A. (2023). A figurational analysis of teachers and students as policy actors in policy enactment: 'Integrated Learning Experiences' in examinable physical education curriculum. *European physical education review*, *29*(2), 308-328. https://doi.org/10.1177/1356336X221139945

Shaheen, N. L. (2020). *The five elements of technology accessibility policy enactment in K-12: A grounded theory* https://mdsoar.org/bitstream/handle/11603/17533/DF2019Shaheen_Redacted.pdf?sequence=1&isAllowed=y

Shaheen, N. L. (2022). Technology accessibility: How US K-12 schools are enacting policy and addressing the equity imperative. *Computers & Education*, *179*, 104414. https://doi.org/10.1016/j.compedu.2021.104414

Simsim, M. T. (2011). Internet usage and user preferences in Saudi Arabia. *Journal of King Saud University-Engineering Sciences*, *23*(2), 101-107. https://doi.org/10.1016/j.jksues.2011.03.006

Singh, P., Heimans, S., & Glasswell, K. (2014). Policy enactment, context and performativity: ontological politics and researching Australian National Partnership policies. *Journal of education policy*, *29*(6), 826-844. https://doi.org/10.1080/02680939.2014.891763

Sulaymani, O., Pratama, A. R., Alshaikh, M., & Alammary, A. (2022). The Effects of Previous Experience and Self Efficacy on the Acceptance of e-Learning Platforms Among Younger Students in Saudi Arabia. *Contemporary educational technology*, *14*(2), ep349. https://doi.org/10.30935/cedtech/11524

Sun, J., & Leithwood, K. (2015). Direction-setting school leadership practices: a meta-analytical review of evidence about their influence. *School Effectiveness and School Improvement*, *26*(4), 499-523. https://doi.org/10.1080/09243453.2015.1005106

Swain, J. (2018). A hybrid approach to thematic analysis in qualitative research: Using a practical example. https://discovery.ucl.ac.uk/id/eprint/10042537/

UNESCO. (2022). *National distance learning programmes in response to the COVID-19 education disruption: case study of the Kingdom of Saudi Arabia*. https://unesdoc.unesco.org/ark:/48223/pf0000381533

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478. https://doi.org/10.2307/30036540

Vennebo, K. F. (2017). Innovative work in school development: Exploring leadership enactment. *Educational management, administration & leadership*, *45*(2), 298-315. https://doi.org/10.1177/1741143215617944

Vision 2030. (2023). *Explore Saudi Arabia*. https://www.vision2030.gov.sa/thekingdom/explore/

Wallace Foundation. (2013). *The school principal as leader: Guiding schools to better teaching and learning*. https://static1.squarespace.com/static/56b90cb101dbae64ff707585/t/57f3ef77ebbd1ac00411c095/1475604350650/The-School-Principal-as-Leader-Guiding-Schools-to-Better-Teaching-and-Learning-2nd-Ed.pdf

Webster, M. D. (2017). Philosophy of technology assumptions in educational technology leadership. *Journal of Educational Technology*

Society, *20*(1), 25-36. https://www.proquest.com/docview/1874036225?pq-origsite=primo&accountid=10910

Wikstrom, P., Duek, S., Nilsberth, M., & Olin-Scheller, C. (2022). Smartphones in the Swedish upper-secondary classroom: A policy enactment perspective. *Learning, media and technology*, 1-14. https://doi.org/10.1080/17439884.2022.2124268

Wilkinson, S. D., Penney, D., Allin, L., & Potrac, P. (2021). The enactment of setting policy in secondary school physical education. *Sport, education and society*, *26*(6), 619-633. https://doi.org/10.1080/13573322.2020.1784869

World Bank. (2022). *The World Bank In Saudi Arabia*. https://www.worldbank.org/en/country/saudiarabia/overview

Xu, W., & Zammit, K. (2020). Applying Thematic Analysis to Education: A Hybrid Approach to Interpreting Data in Practitioner Research. *International journal of qualitative methods*, *19*, 160940692091881. https://doi.org/10.1177/1609406920918810

Yin, R. K. (2014). *Case study research : design and methods* (Fifth edition. ed.). SAGE.