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**IS THE CONCEPT OF E-LEADERSHIP RELEVANT TO A  
PHYSICAL SCHOOL CONTEXT?**

**A Study of Maltese Headteachers' Use of Digital Tools**

By

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A thesis submitted in partial fulfilment of the requirements for the degree of  
Doctor of Philosophy

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## CONTENTS

Acknowledgements.....	7
Dedication.....	8
Declaration.....	9
Abstract.....	10
Glossary and list of abbreviations.....	11
List of Tables and Figures.....	13
<b>Chapter 1: Introduction .....</b>	<b>14</b>
1.0 Introduction.....	14
1.1 Personal Research Interest .....	16
1.2 Research Area .....	18
1.3 Research Outline.....	22
1.31 The Research.....	22
1.32 Research Questions.....	23
1.4 The Research Context: Maltese Schools, Organisation, and Digital Policy .....	23
1.41 The School Context.....	23
1.42 Educational Policy and Governance .....	29
1.43 Digital Organisation and Educational Policies .....	33
1.5 Significance of the Study .....	38
1.6 Chapters Ahead.....	39
1.7 Summary .....	40
<b>Chapter 2: Literature Review .....</b>	<b>41</b>
2.0 Introduction.....	41
2.1 Accessing and Organising the Literature .....	41
2.2 What do we think about when we think about technology? .....	43
2.21 Learning Technology and Hopes for Education .....	45
2.22 Critiques of Educational Digital Tools .....	51
Technology is not Neutral.....	51
Power, Authority, and Surveillance .....	52
Efficiency and Accountability .....	53
2.3 Educational Management, Leadership and Digital Tools .....	55
2.31 Definition of Educational Leadership and Management.....	56
Leadership – Accountability and Managerialism?.....	58

Delegation vs Distributed Leadership.....	61
2.32 Heads of Schools and Digital Tools.....	62
Definition .....	62
Role of the Head of School in Technology Uptake .....	64
Heads’ Digital Attitude and Competencies.....	68
Heads’ Use of Computers and How this has Changed their Role.....	70
2.4 Digital Leadership or E-Leadership? .....	72
2.41 Definition of E-Leadership .....	72
2.42 E-Leadership Context .....	75
2.43 E-Leadership Competencies .....	77
2.44 Questions about E-Leadership .....	78
2.5 Conceptual Framework and this Study .....	80
2.6 Summary .....	83
<b>Chapter 3: Methodology.....</b>	<b>85</b>
3.0 Introduction.....	85
3.1 Philosophical Background .....	85
3.31 Positionality .....	88
3.2 Research Methods.....	89
3.32 Feasibility Study .....	90
3.33 The Interview Tool and Schedule .....	92
3.34 Piloting the Interview Tool .....	96
3.3 Conducting the Study.....	98
3.4 Ethical Considerations .....	102
3.5 Participants.....	103
3.51 Who are the Maltese Heads of Schools?.....	105
3.52 Participant Information .....	105
Personal Participant Characteristics.....	105
Maltese Schools .....	107
3.6 Data Analysis .....	108
3.61 Transcription .....	109
3.62 Coding, Condensing of Codes, and Classification of Data .....	111
3.63 Data Presentation .....	114
3.64 Quantifying Data.....	115
3.7 Validity, Reliability, and Generalisability .....	116

3.8	Summary .....	118
<b>Chapter 4: Findings</b> .....		<b>119</b>
4.0	Introduction.....	119
4.1	Technological Attitudes, Competencies, Qualifications, and Uses .....	119
4.11	Training in Digital Tools/Information and Communications Technology .....	120
4.12	Use of Digital Tools in their Daily Lives.....	121
4.13	Attitude towards Digital Training and Tools .....	122
4.14	Use of Digital Tools in their Professional Lives.....	124
4.15	Further Professional Training .....	127
4.2	Heads Management and Leadership .....	128
4.21	Personal View of School Headship.....	128
4.22	School Headship Key Tasks and Responsibilities .....	129
	Organisational Administration.....	130
	Teaching and Learning.....	131
	People Management and Well-Being .....	132
4.23	School Headship Vision.....	137
	School Climate.....	138
	School Ethos .....	139
	School Improvement.....	142
	Ongoing School Improvement.....	142
	Planning for Policy Changes.....	144
	School Stability .....	145
4.24	Management and Leadership Style and Delegation.....	146
	Style of Leading .....	146
	Delegation of Tasks .....	147
	Attitude towards Delegation .....	149
4.3	Heads and Digital Tools.....	150
4.31	Digital Tools and their Impact on School Practices.....	150
	Responding at the Meso or Whole School Level.....	154
	Technology for Administrative Practices.....	155
	Technology for Management and Leadership.....	159
	Digital Leadership and Implementation.....	165
	Issues Created by Digital Tools .....	168
	Responding to Changes at the Micro-Level.....	171

4.32	Impact of Digital Intensification on Work .....	174
4.4	Summary .....	178
<b>Chapter 5: Discussion of Findings .....</b>		<b>180</b>
5.0	Introduction.....	180
5.1	Maltese Heads of Schools and their View of Technology .....	181
5.2	How is Technology being used within Maltese State Schools?.....	188
5.21	Personal Vision of School Management and Leadership.....	188
	Governance and Autonomy .....	188
	Roles and Responsibilities .....	189
	Leading and Delegating .....	191
5.22	Technology and School Leadership .....	193
	Structure and Social Systems.....	194
	Purpose.....	195
	Technology for People Engagement and Presence .....	196
5.23	Summing Up .....	196
5.3	Changing Roles and Dilemmas.....	198
5.31	Safety of Dataveillance? .....	198
5.32	Autonomy or Control? .....	199
5.33	Exo-System Interventions or School-Based Policies? .....	200
5.34	Connectedness or Impersonality? .....	202
5.35	Work Reduction or Intensification? .....	203
5.4	The Concept of School e-Leadership.....	204
5.41	The Technology .....	205
5.42	The World of the Headteacher .....	206
5.43	The Consequences of Technology Use .....	208
5.5	What then is School e-Leadership?.....	210
5.6	Summary .....	213
<b>Chapter 6: Conclusion.....</b>		<b>215</b>
6.1	Summary of the Thesis .....	215
6.2	Findings.....	216
6.3	Contributions.....	220
6.4	Strengths and Limitations .....	221
6.5	Recommendations.....	224
6.51	Practical Recommendations .....	224

6.52	Policy Recommendations.....	226
6.53	Research Recommendations .....	228
6.6	Concluding Personal Reflection.....	230
	References.....	<b>232</b>
	Appendix 1: Interview Guidelines & Consent Forms.....	<b>249</b>
	Appendix 2: Interview Guide.....	<b>251</b>
	Appendix 3: Interview Prompts .....	<b>254</b>
	Appendix 4: Data analysis tables .....	<b>261</b>
	Appendix 5: Example of an Interview Transcript.....	<b>267</b>
	Appendix 6: Open Codes .....	<b>276</b>
	Excerpt focusing on School responsibilities, Tasks and Visions .....	276
	Technology .....	277

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“Only in my pain, did I find my will.  
Only in my chaos, did I learn to be still.  
Only in my fear, did I find my might.  
Only in my darkness, did I see my light.”  
The Mind Journal

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## **DEDICATION**

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## **DECLARATION**

I declare that this thesis has been composed by myself and that the work has not been submitted for any other degree or professional qualification. I confirm that the work submitted is my own.

Salvina Zammit Pulo

April 2021

## ABSTRACT

This study explores the concept of school electronic leadership (e-leadership) by investigating headteachers' perspectives on technology and its use within their schools. Technology is another layer being added to school leadership with studies mainly focusing on educational and emotional leadership. In view of this this study addresses the electronic aspect of school leadership. A new definition of e-leadership for school settings is provided, focusing on the range of tool-use and their purposes. The study involves interviews with 18 headteachers in middle and secondary state schools in Malta to investigate their individual experiences and interaction with these digital tools.

Based on the findings of this thesis, technology was used extensively and seamlessly for daily managerial tasks, leading to greater efficiency. It was also noted that headteachers tended to delegate the use of digital tools for teaching and learning. Although these tools were considered essential for accomplishing managing and leading goals, they were leading to a significant intensification of work as instant communication increased expectations from all stakeholders. In effect, one of this study's recommendations reflects on the issues of well-being and impersonalisation created through the use of digital tools and encourages leaders to consider this factor in their staff's context. Furthermore, it was noted that digital tools were used erratically to lead the school vision, with technology mainly being used to communicate with educators and staff regarding processes and procedures. Thus, it was concluded that e-leadership should cover a blend of online and face-to-face interactions with a mix of tools for general purposes and school use. Following this study, recommendations of both an academic and practical nature are made. Action research in school e-leadership and blended research, and extended use of digital tools for educational leadership are suggested.

*Keywords: e-leadership, headteachers, state school, school leadership, technology, Malta, school e-leadership*

## GLOSSARY AND LIST OF ABBREVIATIONS

- **BYOD** – Bring Your Own Device. This term refers to technological tools such as smartphones, tablets, or laptops used for teaching and learning.
- **College** refers to a group of schools from early years to secondary within a set region, as outlined by the education department.
- **e1** is the School Management Information System.
- **ECDL** – European Computer Driving Licence. This is an exam that assesses basic Microsoft tools competencies.
- **e-leadership** – electronic leadership. E-leadership is a social influence process mediated by technology.
- **Frontier** was the school learning platform that was replaced in 2019.
- **Head of College/Principal** is the leader and coordinator of a team of school headteachers and educators within a college. Schools include early years, primary, middle and secondary levels. Their role is to ensure quality education for all whilst supporting each school in developing its ethos, educational excellence, effectiveness, and growth.
- **HOD** – Head of Department. This is the lead curricular expert in a subject area who would be teaching whilst developing curricular work. They usually coordinate several schools but are based in one school for teaching purposes.
- **Head of School** refers to the school leader with the most significant responsibility for managing and leading the school.
- **ISTE** – International Society for Technology in Education
- **MEDE** – Ministry for Education, and Employment
- **MUT** – Malta Union of Teachers. This refers to the teacher’s union in Malta.
- **MATSEC** – Matriculation and Secondary Education Certificate Examinations Board. This is the Maltese examinations board that conducts the Maltese-based standardised exams at the Ordinary, Intermediate and Advanced levels. These exams are normally held in April, with a re-sit session in September; however, these dates have now changed due to Covid-19.
- **MySchool** is the School Management Platform in state schools. It is a single and secure platform that collates and displays all information and data in one place.
- **National Statistics Office (NSO)**. This is the Maltese national statistics office.

- **PA** - Public announcement systems.
- **PSD** – Personal and Social Development. It is a core curriculum subject which addresses social, emotional, career, health and personal life skills.
- **QR code** – Quick Response code. This is a matrix barcode capable of storing lots of data, allowing the user to access information instantly.
- **SEC exams** – Secondary Education Certificate exams. These are exams set by the MATSEC Board within the University of Malta.
- **SMT** – Senior Management Team. This team collaborates to set a vision, lead, and manage the school. Members of this team are usually the head and assistant head of school and the subject department head.
- **SDP** – School Development Plan. This is the working document used by the school staff and stakeholders. It includes agreed priorities and targets for improvement based on internal review findings.
- **SIS** – School Information Systems. This unit supports Maltese state schools with Management and Learning Platforms.
- **Trello** is an organisational and collaboration tool that helps users structure work tasks into work notes. It presents an overview of what is being worked on, by whom and its current stage.

## LIST OF TABLES AND FIGURES

Figure 1.1: Maltese Islands subdivided into Regions	25
Figure 1.2: Percentage of Foreigners to the Total Population	26
Figure 1.3: Organisational Chart (Ministry of Education)	31
Figure 1.4: Technological Organisational Chart (Ministry of Education)	35
Figure 5.1: School e-Leadership Process	210
Table 1.1: State School Digital Organisation	36
Table 2.1: Characteristics of Leadership and Technology	76
Table 2.2: Outline of Core Research Terms	84
Table 3.1: Interview Schedule Design	96/97
Table 3.2: Timeframe for the Interview Process	102/103
Table 3.3: Schools and Heads Interviewed	107
Table 3.4: Qualifications of Heads of School	107
Table 3.5: Numbers of Students and Educators in the Schools	109
Table 3.6: Phases in the Data Analysis Process	109/110
Table 3.7: Example of the Qualitative Analysis Process	113/114
Table 3.8: Generating of Definition on Attitude towards Technology	114
Table 3.9: Example Theme – School Vision	116
Table 3.10: Quantifying of Qualitative Data	117
Table 5.1: Level of Proficiency	173

## CHAPTER 1: INTRODUCTION

### 1.0 Introduction

Since there is a greater emphasis on the use of technology within the present-day school leadership context, this thesis explores whether the concept of electronic leadership (e-leadership) serves a purpose in capturing the school leader's role in the twenty-first century. A qualitative approach is taken to address the research questions on the digital and technological attitudes, uses, and perceptions of the heads of schools to provide relevant information about whether e-leadership can be applied to school contexts. Set in the island nation-state of Malta, heads of middle and secondary state schools are interviewed regarding the following research questions to shed light on the concept of e-leadership:

1. Who are the school leaders, and what do they do?
2. What are school leaders' personal experiences, attitudes and perceptions towards technology?
3. How is technology being used for management and leadership in school, and what changes are triggered by the use of technology?
4. What do school leaders see and report as difficulties/opportunities in their use of technology for leadership practice?

While research on educational and emotional leadership within schools is extensive, e-leadership is still in its inception. Educational leadership describes technology's potential to articulate the vision, change, values, and purpose for ongoing school improvement whilst maintaining the everyday organisation of schooling, curriculum, and assessment. Emotional leadership includes the ability, capacity, or skill to

understand and manage one's emotions and those of others around them. E-leadership addresses how the various technological and digital tools available to the school leader may be used for school improvement and social influence.

The overarching research question focuses on how and why school leaders use digital tools and how these tools have affected their leadership roles. As discussed later in this thesis, e-leadership is a new concept in school leadership that should be differentiated from leading based on Information Communications Technology (ICT) for teaching and learning. E-leadership has a more general remit as it is about how tools affect the vision creation and decision-making process of schools. E-leadership emerged from a study of business settings, which later extended to higher education settings and, more recently, virtual schools. As its applicability to physical schools is under-researched, this study provides a new conceptual understanding of this emergent field.

My pragmatic argument is that technology in schools has resulted in further complexity for school leaders, the implications of which are still under-researched. This study looks at technology beyond classroom use to consider its use for leadership, school improvement, and change. Thus, it addresses the key conceptual question, 'Can one talk about school e-leadership in the context of physical schools and what are the benefits and difficulties of doing so?'



## **1.1 Personal Research Interest**

My interest in technology mainly arose from my preparation work for teaching and learning. The connectedness, creativity, and diversity that one could find via the Internet piqued my curiosity and supported my enthusiasm for identifying engaging resources for students. As a 'digital immigrant', I witnessed the shift from typewriters to massive computers with data storage that progressed from 5 ¼ inch and 3 ½ inch floppy disks to USB flash drives and external hard drives, and to the present-day fast and furious cloud storage. This enticing, primarily self-directed journey helped me be engaged and curious whilst expanding my knowledge and skills.

The research opportunity for elaborating on the role of digital tools within the classroom arose through my master's course in adult education. I researched the extensive use of the Internet by Personal and Social Development (PSD) teachers in their personal and professional lives. I explored how the Internet improved teachers' self-directed learning through the availability of such tools and how they were employed in teachers' professional lives.

Once I was promoted to assistant head of school, I became further aware of technology's implications when carrying out managerial, administrative, and leadership roles. Having changed schools three times as an assistant head and worked with four different heads in schools ranging from 140 to 900 students, I became more conscious of how leaders' attitudes toward digital tools influenced the school. I noted that face-to-face communication skills were essential in leadership; however, digital tools seemed to

support immediate decision-making, especially when clear procedural communication was required. With an online calendar, all educators could be informed and updated via email about key priorities occurring within the school over the coming weeks and months. This helped colleagues prepare accordingly for lesson planning or broader mental health concerns. Communication via email seemed to be a blessing to keep up with the school structure and setup, lessons, and activities.

As I continued engaging with technology, I observed the links between digital tools and leadership. I noticed the increasing use of technological tools within the school, which prompted training for the uptake of technology in school management and the classroom. As this happened, I started wondering whether technology was increasing the head of schools' responsibilities. My exploratory journey was engaging, but it also made me aware of some critical questions: Was all this technology useful? Were digital tools facilitating school leadership or creating more issues? How had the role, responsibilities, and tasks of the head of school changed? Were all these tools facilitating the leadership aspect of school improvement and change? How was the affective or emotional level of leadership being addressed? These questions led to more observations and, once again, to even more questions.

Following my observations and reflections, I shifted from being very eager to engage with technology to being more cautious and observing the changes in processes, dynamics, and engagement with colleagues, aware also of the intensification of work due to emails and unexpected issues created by social media. I enjoyed technology because I felt it helped me feel more efficient when contacting colleagues, asking

questions, researching, and finding information. However, the pressurised nature of school leadership and the range of digital tools made me question their true effectiveness within school leadership, which drew me to e-leadership and evolved into this thesis.

## **1.2 Research Area**

E-leadership initially developed as a concept in the business field, resulting from increased instantaneous communication and global connectedness. This concept is discussed extensively in Chapter 2, but in brief, e-leadership addresses how digital tools alter how people are influenced, set visions, and make decisions in organisations (Avolio & Kahai, 2003).

When e-leadership started being explored within education, it was mainly in the context of virtual learning environments within higher education. The concept has recently been extended to schooling, due to the increased accessibility of tools and a growing awareness of their implications, especially within large schools. This gave rise to my interest in exploring Maltese schools' leadership and digital landscape. In my study, I focus on digital tools and technology, using these terms interchangeably throughout. These terms are used to refer to all applications, hardware, software, and tools that rely on computers and ICT. These terms cover software for schooling and learning purposes, devices such as tablets, smartphones, CCTV, and Internet applications, such as social media, learning platforms, digital video and audio, web pages, databases, and cloud computing. All these digital tools are already present to some degree within government schools and indicate the range of digital technology already in place.

Although this e-leadership study focuses on the impact digital tools have on the heads' role in organisation, management, and leadership, it has wide-ranging implications for teaching and learning. Some of a head's roles encompass the organisational and managerial tasks of schooling, the instructional leadership role of pedagogy and methodology adopted by educators within the classroom, and leadership of school improvement, all of which require the use of digital tools.

As opposed to digital tools for learning, e-leadership is a relatively new area in research. Indeed, an initial literature search confirmed my belief that most studies focused on technological leadership within the classroom (Afshari et al., 2009; Schiller, 2003; Wilmore & Betz, 2000) rather than leadership in general. In Garland and Tadeja's (2013) words, the focus has been on identifying ways "to harness the transformational power of emerging technologies for improving student learning" (p. xi). Most of the discourse concerning school technology focuses predominantly on the importance of classroom teaching and learning to enhance student participation by providing greater flexibility in learning (Bauer & Kenton, 2005; Flanagan & Jacobsen, 2003; Whitehead et al., 2003).

I first noticed the relative neglect of digital tools for leadership in the Maltese context when the virtual learning platform Fronter was introduced in schools. Fronter was intended to provide a virtual organisational system for learning that extended beyond the classroom. However, training delivered to school personnel focused on its use within the classroom with little to no mention of administrative, managerial, or leadership aspects regarding the platform, including the use of class listings, providing student information,

and creating timetables and calendars. Although essential data was keyed in by school secretaries or transferred via the School Information Systems (SIS), Senior Management Team (SMT) members were left in the dark as to the opportunities for organising and monitoring student progress.

When working within schools, the available range of technological tools, from electric gates to CCTV, public announcement systems (PA) and management systems, interactive white boards, and all-in-one desktop computers, can often be taken for granted. Overall, the literature indicates that technology has a positive impact, such as reduced workloads, effective time management, and improved quality of reporting (Condie et al., 2007). Research also refers to value of school data-management systems where principals can track learning outcomes, behaviour, curriculum, and other pedagogical data (Blau & Hameiri, 2012). However, it is not clear whether the extensive investment in digital tools is proportional to the impact on school performance and effectiveness (Condie et al., 2007). Several key inhibitors to the uptake of technology have also been noted, including lack of time, training, and basic computer and literacy knowledge by school administrators (Mumtaz, 2000; Mwalongo, 2014). Hence, more research is needed to evaluate how tools are being used in the decision-making process, information processing, and data management.

Transnational entities such as the European Commission, which constantly emphasises that training and education systems need to address life-long learning and inclusive education appropriate for the digital age, also seem to have neglected the importance of leadership. The Digital Education Action Plan (January 2018) sets out how education

and training systems can better use innovation and digital technology whilst supporting the development of relevant digital competencies needed for personal and professional use in an age of rapid digital change. Following this, three priority areas were identified for discussion:

- Priority 1: Making better use of digital technology for teaching and learning.
- Priority 2: Developing relevant digital skills and competencies for the digital transformation.
- Priority 3: Improving education systems through better data analysis and foresight

(European Commission, 2018, p. 4).

These priorities raise questions at the macro and micro levels of policy and practice skills yet seem to miss out on the relevance of school leadership and its vision for holistic school improvement. Policies still focus mainly on the uptake of technology within the classroom despite the clear finding that school leadership is second only to classroom teaching in influencing pupil learning (Fullan, 2007; Leithwood et al., 2004). This is found alongside extensive studies which present school leadership as the most crucial factor affecting the successful integration of technology (Byrom & Bingham, 2001).

In sum, there is a gap in the literature and an opportunity to explore how to use tools in a more considered manner for carrying out leadership functions. This is becoming more urgent as technology has resulted in a reappraisal of heads of schools' roles and responsibilities. Headteacher roles have become more complex, and heads are expected

to offer a vision for their schools that goes beyond day-to-day administration and management (Gurr, 2015; Leithwood et al., 2004; Spillane et al., 2015). This vision, now more than ever, seems to require reference to the use of technology.

### **1.3 Research Outline**

#### ***1.31 The Research***

This study is a small-scale in-depth survey of nearly all Maltese heads in middle and secondary state schools. Through interviews, headteachers elaborated on their perceptions, attitudes, and vision regarding their roles and responsibilities, as well as on how their daily use of digital technology expanded with their view of technology in educational spheres. Further discussions covered contemporary trends from a leadership–digital tools perspective.

The semi-structured interviews were organised into five key areas. Sections 1 and 2 addressed generic information about the interviewee and the school they were leading. Section 3 asked about their vision of school headship, leading their school, and their school reality, especially regarding context, school areas of strengths, and development areas. The fourth section eased them into exploring the study’s technological aspect, namely their views, attitudes, and perceptions of technology within schools. It addressed training in technology and their level of use for professional and personal purposes. The final section explored digital tools, especially ICT, which allowed heads to discuss their perception of technology in the school and further explain their views on technology

leadership and technology for leadership. The section concluded with suggestions for areas of further training or development regarding digital tools.

### ***1.32 Research Questions***

The study was framed by my overarching research question about the applicability of e-leadership concepts to Maltese schooling environments. This led to a series of questions as the research got underway, including: What is the reality of the Maltese educational context? With most heads being digital immigrants, what is their narrative of use concerning leading their schools? These questions were later refined into a clearer, more manageable set of four questions to guide the project, as listed at the start of the chapter.

## **1.4 The Research Context: Maltese Schools, Organisation, and Digital Policy**

### ***1.41 The School Context***

The research took place in Malta, a small island state which forms part of the European Union (EU) and Commonwealth. Throughout recorded history, our small island has been a centre of strategic importance and commerce within the Mediterranean. Up until 1964, when Malta became an independent country, our history was based on colonisation by numerous rulers for the strategic geographical location of our islands, some of whom took us by force, some were gifted our land, and others were granted access by the Maltese themselves. Recent history has seen Malta transition from an independent country to a republic and even join the EU in 2004. Keeping in mind the size of the Maltese island state – 316km<sup>2</sup> – its meagre natural resources means that as a

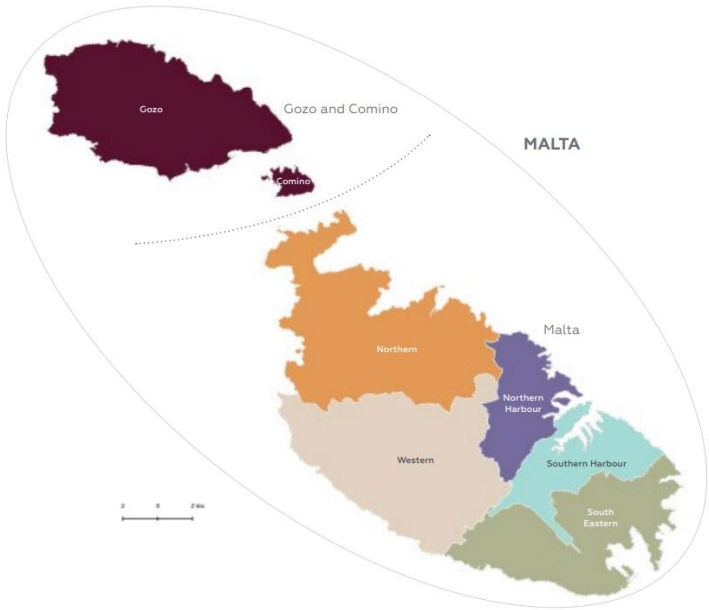


country, it relies heavily on importation as it produces less than a quarter of its food needs and has limited water supplies. Due to its size, Malta is also dependent on foreign trade and services, mainly tourism, financial services, real estate and i-gaming. Still, while Malta’s free-market economy is the smallest in the eurozone, Malta’s economy has experienced substantial growth since EU accession. Between 2014 and 2016, Malta’s GDP expanded by more than 4% each year, weathering the eurozone crisis through its low debt-to-GDP ratio and the strength of its banking sector. Malta also maintains one of the lowest unemployment rates due to constant growth and policies encouraging continuous training for the labour force (Eurydice, 2018).

As a State, Malta is subdivided into six regions for National Statistics purposes, as seen in the map below. These regions reflect diverse social demographics.

**Figure 1.1**

*Maltese Islands Subdivided into Regions*



*Note:* From National Statistics Office (NSO), 2020.

According to NSO (2020) statistics,

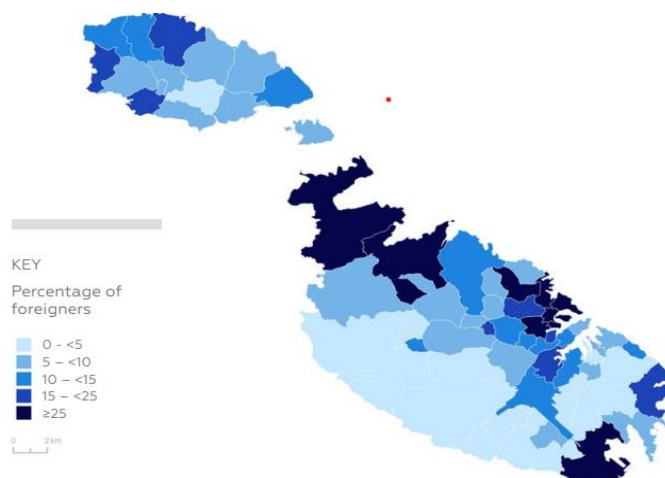
‘The average disposable income for the average household was of €28,131 in the region of Malta, an increase of 1.2 per cent over the previous year while in the region of Gozo, and Comino the average household disposable income stood at €23,741, an increase of 3.8 per cent over 2017’ (NSO, 2020 p. 28).

Despite this growth, recent studies on the income and living conditions survey produced by the NSO showed that 78,685 persons living in private households in Malta were at risk of poverty, equivalent to 17% for the region of Malta and 14.1% for the region of Gozo and Comino. These increases were registered in the Northern Harbour, South-Eastern and Northern Districts.

Between 2012 and 2018, Malta experienced overall annual growth of 69,084 inhabitants, especially within the Northern Harbour District (30.3%) and the Northern District (28.2%), with the least growth in the Southern Harbour District (4.3%) (NSO, 2020).

### Figure 1.2

*Percentage of foreigners to the total population*



*Note:* From National Statistics Office (NSO), 2020.

This huge growth in migration shows how Malta has changed from a country of emigrants in the 1960s and 1970s to one of immigration. Whereas in 1995, immigrants contributed 1.9% of the total population, in 2015, following EU accession, this figure more than doubled to 5.9% (Grech, 2015). This shift was also reflected in the number of international students within the Maltese system, with 6.7% of total students enrolled in formal education during 2014/2015 (NSO, 2016), most of whom were EU nationals. In addition to this, one needs to mention the flow of illegal immigrants, with an average of 2,200 people coming into Malta over recent years. These numbers include both asylum seekers and illegal immigrants, who once in Malta illegally start the process of acquiring asylum-seeking status. Irrespective of status, those of school age are expected to have access to education (United Nations High Commission for Refugees, 2021). These numbers impact our educational sectors as they put pressure on resources and provide challenges for integration and ensuring good relationships with such communities and parents, notwithstanding the challenge of supporting learners with Maltese and English as a second language.

Despite these recent economic and social changes, Maltese education has long reflected a history of close ties with the educational philosophies and policies of the British education system, even after having secured self-governance from the British rule of over 164 years. Following our independence, several educational reforms were implemented as influenced by United Nations Educational, Scientific, and Cultural Organisation, and policies on free education for all were introduced. From secondary education to reviewing the school leaving age to developments on Maltese National Minimum Curriculums, reforms have continued apace. One important reform was set

out in a relatively recent document entitled 'For All Children to Succeed' (2005). This led to a series of policy changes and to two key documents, namely the 'Framework for Education Strategy for Malta 2014 – 2024' and 'My Journey: Achieving Through Different Paths', which “ensures inclusive and equitable quality education and promoting lifelong learning opportunities for all” (Ministry for Education, and Employment (MEDE), 2016, p. 1).

Responsibility for the Maltese educational system lies with the Ministry for Education, with education being provided by the state, church, and independent schools. Church schools are predominantly Catholic run by the Church Secretariat, whilst independent schools are mostly run by parent foundations. Whereas state and independent schools are co-educational, church schools are single-sex institutions. The secondary cycle, which starts from eleven years onwards, is organised in two phases: middle school for two years and secondary school for a further three years. Generally, most state schools have been organised around a middle and secondary school, where students have numerous subject options and prepare for their Maltese Secondary exam (SEC). This SEC exam is the standardised exam held at the end of compulsory school education. Church and independent schools have kept this secondary cycle within one school location.

According to the Maltese NSO, in 2018, there were 28 state schools, 22 church schools, and 12 independent schools in which 53% of students attended state schools, 36% church schools and 12% independent schools. Compulsory education institutions were mostly located within the Northern Harbour district, accounting for 41% of all

educational institutions in Malta and 48% of the total secondary student body (NSO, 2020).

One of the key differences between the three sectors is that of payment and registration/selection of students. Government schools are free and are obliged to accept students from the local catchment area. Church schools are also free as they are state subsidised; however, rather than being selected from catchment areas, parents are required to register their children for church school places. Those at the top of the ballot have their pick of schools, those whose names are pulled out halfway have a reduced choice, and those pulled out last may have only one option or may even be put on a waiting list. Such ballots occur at first- and second-year kindergarten, first-year primary and Year 7/Form 1 in secondary. Independent schools are not free, but tax rebates to parents of students attending these schools make some more affordable for better-off families. Independent schools are against payment. These schools admit students based on a number of entry criteria set by the school.

Among the 28 state schools are four schools with specialised cohorts of students, namely the Alternative Learning Programme, Educational Hub, National School Sports and the Visual and Performing Arts. As these names imply, these schools have specialised programmes relating to sports, visual arts, and support for students with learning difficulties. Due to their specialised nature, these schools were not included in my study.

### ***1.42 Educational Policy and Governance***

Maltese education is evolving with continuous changes in all aspects of school life. The educational system of state-maintained schools was largely dependent on central government policies before the 1990s. However, the launch of the 'For All Children to Succeed' (2005), document enhanced school autonomy and introduced two additional managerial reforms in state schools. One was the separation of the director-general of education's role into two: one director-general responsible for student services and another responsible for quality and standards in education. Further reforms to the Ministry for Education's organisational structure include an additional director-general for strategy and support and the chief information officer. This organisational structure shows an ever-increasing number of departments with specialist roles (Ministry of Education, 2020).

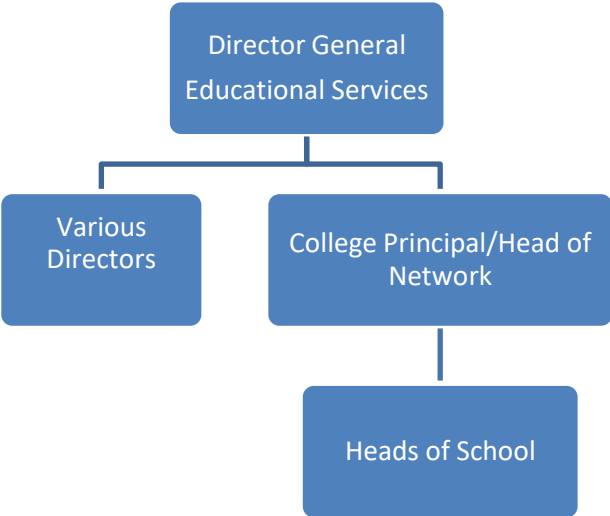
A second major recent reform of Maltese education led to a state college network system by which schools were organised into regional colleges to collaborate more extensively. Primary, middle, and secondary schools within a region were to be led by a principal of the college network, who would coordinate all the schools' work. The new role of the college principal, now known as the head of college networks, has its own legal standing based on the region in which it is operating. The college principal can take decisions within the college with the overall aim of ensuring that students receive their educational entitlement in a smoothly running school. The head of college leads the council of heads network composed of heads of schools within the college (primary to secondary). The reform was intended to decentralise education to some degree while allowing for a

common ethos and identity among schools in the same area. The reform aimed to offer “a change in educational governance, from a ‘top-down’ bureaucracy to ‘communities’ where parents and practitioners who work within them come together for the benefit of the students” (Cutajar et al., 2013, p. 119). However, the reform also added a level to the hierarchy between school heads and the education department.

When reviewing the organisational structure, one becomes aware of the limited influence that heads of schools have within the Ministry of Education’s organisational structure. Heads are, however, included as a section under the director general’s remit for educational services and are directly responsible to the head of college network. Figure 1.3 below reflects how the head of school’s role is somehow lost within the Maltese educational structure, even if this role is constantly indicated in research as a key element for school improvement.

**Figure 1.3**

*Organisational Chart*



*Note:* Ministry of Education, 2020

These network reforms have had mixed reactions, and as Cutajar et al. (2013) explain:

The reforms that have been implemented following the 2006 Act have had excellent intents, but they have been undermined by a reluctance on the part of the central government to delegate responsibility for decision-making to the colleges. As a result, a very clear hierarchical managerial relationship between the central government and the colleges has been established. (p. 122)

Headteachers are under pressure because they do not have the autonomy to take the required decisions to resolve problems yet are held accountable for meeting higher expectations around schooling (Bezzina, 2019; Mifsud, 2015). Further to this, heads are reported to feel that decentralisation was artificial as they constantly needed the principal's consent for decisions, thus limiting their authority. Heads felt an intensification of work as more people needed to be informed of ongoing school processes for them to move forward. Despite this attempt at decentralisation, further reforms and policy directions still emanated from 'the top', i.e., directives from the Ministry of Education. Thus, heads find themselves in a taxing position as they are the ones who must identify what is possible within their school whilst ensuring that such actions fit with the changes directed by policymakers and the principal. Often, heads are left to deal with practitioners' anxieties, anger, questions, and concerns while implementing top-down change. At the time of writing, policy direction is seeking a:

coherent strategy for lifelong learning opportunities from early childhood education and care to adult learning to ensure that all children, young people and adults have the opportunity to obtain the necessary skills and attitudes to be active citizens and to succeed at work and in society. (MEDE, 2013, p. 3)



This framework has four broad guidelines intended to improve students' learning experience whilst acknowledging possible societal, ethnic, and religious barriers and differences:

1. Reduce the gaps in educational outcomes between boys and girls and between students attending different schools, decrease the number of low achievers and raise the bar in literacy, numeracy, and science and technology competence, and increase student achievement.
2. Support educational achievement of children at risk of poverty and from low socio-economic status and reduce the relatively high incidence of early school leavers.
3. Increase participation in lifelong learning and adult learning.
4. Raise levels of student retainment and attainment in further, vocational, and tertiary education and training.

(MEDE, 2013, p. 3)

This framework has paved the way for strategic policy developments in numerous areas, including governance of education organisations, quality of education, student focus, social provision, and performance dashboards. This led to the development of 'My Journey', a policy document intended to create "an equitable quality learning provision in secondary schools" (MEDE, 2014, p. 6). Changes are designed to ensure that students are learning at their ability level, whether academic, vocational, or applied. This required the clustering of schools, especially secondary schools (Grades 9 to 11), to provide specialised learning areas. Some of the recent changes have covered:

- Changing secondary schools from single sex to coeducational.

- Separation of the secondary sector into middle school (Years 7–8) and secondary school (Years 9–11).
- Diverse learning paths addressing academic, vocational, and applied subjects with parity of esteem.
- Teaching towards learning outcomes.
- Adopting different assessment methods that address of, for, and as learning.

This section examined the organisational structure of the Maltese state education sector. The difference between the principal/head of college network's roles and that of the head of school was addressed. Although the principal directly impacts the headteacher's work, this study focuses directly on the heads themselves and their role in influencing and leading their schools.

### ***1.43 Digital Organisation and Educational Policies***

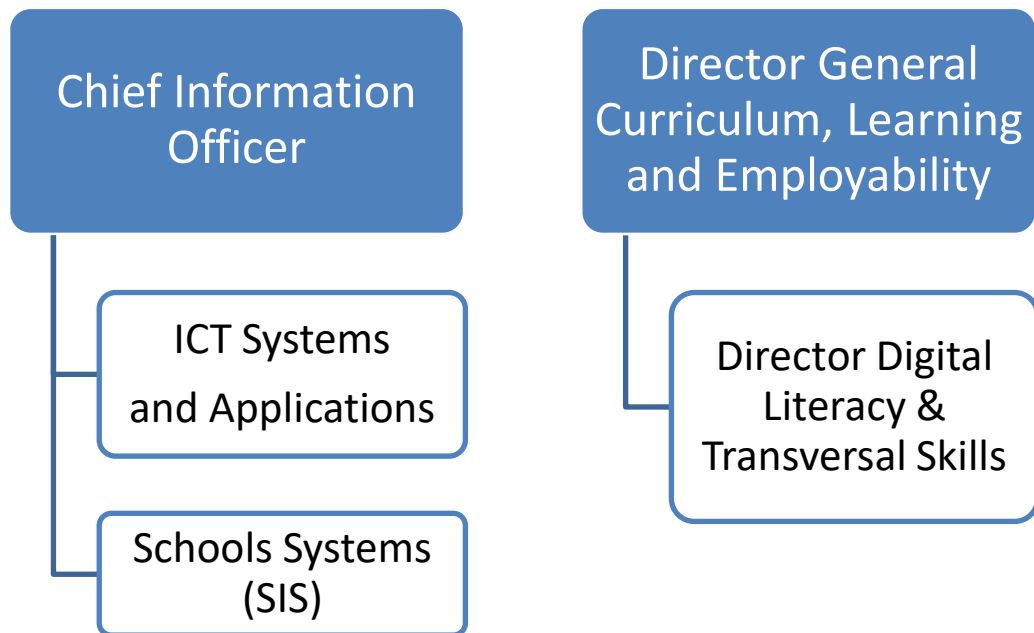
This section addresses two areas, namely the Ministry of Education Organisational Chart regarding key digital developments in schools and technology educational policies.

#### **Organisational Chart**

The organisational chart shows a divide between software and hardware considered to be for administrative and managerial purposes and those used for teaching and learning within the classroom. The finalised organisational chart, which came into effect during my study, outlines two key roles: Chief Information Officer and Director of Digital Literacy and Transversal Skills.

**Figure 1.4**

Technological Organisational Chart



*Note:* Ministry of Education, 2020

The chief information officer directs the information management unit. Within this remit is SIS, which is responsible for the administrative and managerial software schools use, including MySchool and Timetabler. These information management systems are essential for school records and managing student data, including assessment data.

The director general curriculum, learning and employability is responsible for implementing technology use within the school and classroom through the Director of Digital Literacy and Transversal Skills. These roles were created to reflect the extensive use of technological tools within schools, especially for teaching and learning purposes. Prior to my research, the Directorate already provided extensive support through the work of resource teachers employed to visit and work with schools. These e-learning

support teachers visited once a week during this study, and school teachers worked directly with e-learning teachers to access support for using technology within the classroom. This could range from technical support to learn how to use, for instance, the interactive whiteboard, to pedagogical support, for example, to use the whiteboard interactively.

The table below provides a clearer understanding of the training and tasks provided in the two entity sections. Notably, since 2018, the Institute for Education has been providing more accredited professional courses in all areas, including digital tools in the classroom.

**Table 1.1**

*State School Digital Organisation*

<b>Entity</b>	<b>Relevant Authority</b>	<b>Entity's Role</b>	<b>Provided Training</b>
SIS	Chief Information Officer for the Ministry for Education	Training on the administrative procedures of School Management Systems for school administration	<ul style="list-style-type: none"> <li>• School Management System – Fronter</li> <li>• Administration such as e-1 processes, e.g., finances and administration</li> <li>• Software, e.g., Timetabler</li> </ul>
Director of digital literacy and transversal skills	The director general Curriculum, Lifelong Learning and Employability	Training on pedagogical and classroom practices	<ul style="list-style-type: none"> <li>• Training on classroom resources, e.g., Kahoot and Quizzez</li> <li>• Training on Microsoft tools, e.g., Excel and Teams.</li> </ul>

## **Technological Educational Policies**

Several ongoing strategic policy developments have impacted digital tools for schooling, especially those intended to support classroom practices. The government and other ministries typically outline policy directions related to IT, occasionally independently from the Ministry of Education. Since 1987, the Maltese government embarked on large-scale modernisation to develop Malta into a regional hub for infrastructure and business services by applying communication technology. Subsequent policies continued pushing the ICT agenda and promoting 'e-Malta'. Various projects and policies were outlined, strengthening the use of technology in the economy and Maltese society.

Educational elements were emphasised in policies and strategies. A series of guidelines were set up to address integration within education from e-learning to national policies to support adult education and lifelong learning. Educational and curricular policies started to focus more on including e-literacy through policies like the 'National Policy and Strategy for the Attainment of Core Competencies in Primary Education Document' (2009) and the 'National Curriculum Framework' (2012). At this point, subjects such as computer studies, ECDL and ICT were already integral subjects in schools; however, more attention was being placed on e-literacy as a discipline and cross-curricular and transversal theme. Strategy documents focused on digital literacy with an emphasis on integrating technology in the classroom and teaching plans within the context of the learning outcome frameworks. Still, there was no holistic strategy for digital education but discrete policies under the 'Literacy Strategy' and the 'Lifelong Learning Strategy' mentioned above.

Policy direction focused instead on the importance of “more effective synergies between education, the economy, and civil society” (MEDE, 2014, p. 6), indicating that market forces lie at the core of education. Classroom technology within educational spheres was adopted for the dual reason that digital tools in the classroom would improve student engagement and learning but also would prepare students for future work and careers in which digital knowledge was assumed. Such areas of innovation include:

1. The introduction of school management systems.
2. The introduction of interactive whiteboards in the classroom.
3. The introduction of the One-tablet-for-all in Grades 3–6.

All these changes emanate mainly at the macro-level of policy-making, impacting the meso- and micro-levels of the educational system. Teachers and administrators were expected to change their work practices with the introduction of school management systems and interactive whiteboards. The electoral promise of one-tablet-for-all was initially made by the opposition party and then adopted once it came into power. The electoral promise was to provide every child in primary education with a tablet through a public–private partnership. The rationale behind this proposal was for children to have a fair and equal opportunity to use technology to improve functional, digital, scientific, and mathematical literacy to become more active citizens (Ministry of Education, 2021). In the face of so much change, leaders and practitioners in schools are trying to play catch-up with policies and the direction their work has taken with too little time to

reflect and integrate practices before new initiatives, whether general or digital, are introduced.

## **1.5 Significance of the Study**

The overall significance of the study is that of exploring e-leadership in schooling contexts. By looking at heads' perspectives, this research considers whether the concept of e-leadership developed in virtual settings is beneficial for physical schools. In effect, this research contributes to the emerging field of e-leadership concerning school leadership rather than the more well-established field of teaching and learning with ICT. Other significant contributions are:

- For the Maltese context, this study provides insight into the administration, management, and leadership of government schools. Although local research on technology has taken place, this relates to its uptake in the classroom. This study is the first, to my knowledge, that explores headteachers' interaction with technology.
- An elaboration of digital technology concepts, including digital leadership, school leadership for technology, school leadership with technology, and e-leadership, shedding light on their usefulness and definition.
- Guidelines for policymakers with regards to implementing successful digital/e-leadership within schools.

## 1.6 Chapters Ahead

The thesis is divided into six chapters.

- **Chapter 1.** The introduction outlined the salient points for the study, namely the reasons for addressing the undertaking of the study and the research areas it covers. It also outlines the Maltese education school system structure and recent policy changes and directions.
- **Chapter 2.** This chapter explores the research covering school leadership and technology. Technology proficiency, technology adaptation, and uptake in schools are examined, leading to a discussion on e-leadership.
- **Chapter 3.** Here the methodology grounding this research is specified along with the data collection method used. The chapter describes the decisions taken to address the research questions and what happened as the research got underway. Further information about the sample and the research context are also included here.
- **Chapter 4.** This chapter presents the analysis and findings based on the research questions and interviews conducted. It is organised around three themes: heads of schools' attitude, technology competencies tools, and training; heads' roles, tasks, and vision; and heads and technology use.
- **Chapter 5.** This addresses the overarching research question by critically discussing the concept of e-leadership within Maltese schools. The chapter is organised around the key research questions, with a final section addressing the elements of school e-leadership.



- **Chapter 6.** This chapter outlines the conclusions from the study and puts forward recommendations for further research for policymakers, educational leaders, school leaders, and teachers.

## **1.7 Summary**

This chapter provides the reader with a background to the research and context in which it has been undertaken. An extensive outline of the education structure of the Maltese state sector was presented, addressing the changes in policies and school practices over the last decade. Key changes were the introduction of the principal/head of college network, which affected the school leadership and governance, and the numerous digital tools for schooling and communication practices.

In the chapter, the concept of e-leadership in school leadership was introduced.

Although set as a concept within virtual settings, various elements of e-leadership are relevant to physical spaces, given the number and variety of technological tools found in schools. The literature review elaborates further on its suitability by exploring various definitions and concepts from an academic perspective.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.0 Introduction**

Technology has been promoted in learning institutions and schools for many years. This chapter looks at the literature on education and digital tools, the effects of these tools within schools, and their application for educational leadership.

The chapter is divided into four main sections. Section 2.1 focuses on ways in which the literature was accessed for the review to clarify the selections made. Section 2.2 explores critical views of technology within education and learning systems and outlines the hopes that accompany the use of digital tools. Section 2.3 addresses the concepts of educational administration, management, and school leadership by exploring the complexity of integrating digital tools in schooling. Section 2.4 explores the difference between digital leadership and e-leadership. Section 2.5 develops the concept of e-leadership, including a look at the idea of virtual school leadership. This outline aims to provide a clear, integrated picture of the study area.

### **2.1 Accessing and Organising the Literature**

The literature review reviews theoretical writing and case studies on technology, school leadership, and digital/e-leadership. The literature was sourced in different ways. My first strategy was to return to literature that I had read in the past. Hence, my first section, on technology, drew to some extent on material I had read when previously studying technology or books I was simply interested in reading while following debates in wider society.

The second source of literature was *snowballing*, i.e., following the writers mentioned in the articles I was reading. For instance, I found Selwyn frequently mentioned by critics of technology in school and looked at his books and articles, not all of which I quote. In the section on leadership, I also found repeated mentions of Fullan, Senge, Peterson and others and went to their work to gain a deeper understanding of leadership. In my third section, I quickly became aware of Avolio's work through repeated referencing, which was crucial to my understanding of e-leadership.

My third strategy was to search through keywords. For example, in Section 2.2, I used: school leadership, educational leadership, and leading schools, to access recent articles on leadership. This more systematic approach was essential for accessing papers on e-leadership using - digital leadership, technology leadership, and technology in schools, amongst others. However, this also created a problem as, on inspection, I found that many papers I accessed focused on the uptake of digital technology in the classroom, especially for pedagogical purposes and not on e-leadership (using technology to lead a school). These works were rejected as they did not relate to the object of my research.

I thus followed both bottom-up and top-down search strategies and was able to produce narrative reviews on the three themes I present here. By narrative review, I mean the organisation of reading into a coherent picture of the field of research drawing on both general reading and case studies.

## **2.2 What do we think about when we think about technology?**

Debates about technology have been raging for a good many years. Much excitement was generated by writers such as McLuhan (1967), Bell (1973), and Toffler (1981). The shift from industrialism to an information-based society was viewed by Toffler (1981) as a Third Wave that focused on values such as pluralism, humanised technology, and ecological sensitivity. All this was possible due to the technological transformations occurring within the world. Toffler's utopia was founded on "rendering irrelevant many of the most intractable problems of the passing era" (1981, pp. 147–148). McLuhan (1967) and Bell (1973) also saw this shift from a society based on manufacturing goods to one focused on information. McLuhan (1967) saw the rise of a golden age due to the electric age of information, which, thanks to the computer, promised universal unity and understanding, producing a new kind of 'tribal man'. Bell (1973) further noted that "knowledge and information are becoming the strategic resource and transforming agent of the post-industrial society" (p. 387). His view of futurism rested on the idea that the information society would be characterised by technological growth and productivity and a means for managing fast transactions and increased social interactions in modern society. These futuristic ideas reoccur among advocates of digital tools over the years so that technology is considered a driver for social development worldwide.

Technology has reconfigured social arrangements, processes, and practices, resulting in global, political, and economic transformation. Many have welcomed these transformations, but critics have noticed an associated shift from social democratic systems intent on promoting social justice to a single global system based on the

neoliberal belief that the market should allocate resources. Neoliberals have pushed back on state intervention to pursue economic growth and competitiveness. Some keywords for this new global, political, and economic world are individualism, freedom, rights, free market, consumerism, competition, and choice. The state takes on minimal roles, such as maintaining essential regulatory functions or providing services that the market cannot easily provide.

Neoliberal ideas have implications for the labour market and the workforce as they rest on the belief that the free market requires more highly-educated employees with skills such as teamwork, collaboration, cooperation, self-motivation, and self-organisation (Jones, 2019). This is a benign, even optimistic view, of how society is changing, yet while some new jobs require increasing levels of skills and education, not every job does. Individuals employed in low-paying, repetitive jobs do not require such high-level skills. Thus, while technology might have much to offer, the belief that education must adapt to the world of work and its technology is based on misinterpretation.

Techno-romantic or techno-utopian views have existed for some time and have generated their own critique. Writing in 1981, Lefebvre saw an “intensification of technological modernism and an expectation of novelty, in a kind of frantic fervour for a different society” (p. 91). Technology has supported and accentuated the disruption of labour organisations. By emphasising techno-capitalism alongside the preparedness of learners for the workplace, the onus of responsibility for future workplace preparedness is being placed on education (Selwyn, 2010).

## ***2.21 Learning Technology and Hopes for Education***

Any contemporary society believes that technology should feature within an education system, making schooling and learning more effective and efficient and the system appear fit for purpose. ICT has created quite a stir with educational policymakers and stakeholders due to promises of widespread uptake resulting in increased engagement and motivation of learners. One can observe a staunch belief “in technology’s capacity to improve education and most other things in society, often coupled with a sense of inevitability concerning the growth and use of computer technology” (Bigum & Kenway, 1998, p. 378).

Digital technology in educational settings covers a wide array of elements from hardware to software programs, from school organisational tools to learning resources and apps inside and outside the classroom. One can safely say that technologies associated with schooling are prevalent from when one leaves home and enters the premises. These technological elements are expected to be present, from school transportation and student trackers to electronic gates and CCTV cameras, from water dispensing machines to solar panels to school bell and internal communication systems. Digital technology has always been present for teaching and learning purposes, from chalk to the whiteboard markers, radio to TV, interactive whiteboards to various software and devices, such as tablets and smartphones. These digital tools are believed to impact and revolutionise teaching and learning by providing quick technical fixes to wide-ranging and ongoing educational promises as they provide fast, interactive processes that engage students with learning goals.

We live in an increasingly “human-machine world” (Prensky, 2012), which intertwines with all aspects of our lives and requires new ways of thinking and learning:

We need to integrate technology in a manner that not only allows students to do “old” things (such as writing and research) in new ways but, far more importantly, also enables our students to do *new* things, in *new* ways and get a different and better education because of technology. (Prensky, 2012, para. 4)

More emphasis has been placed on digital technologies as they appear to support 21<sup>st</sup> century skills by focusing on communication, collaboration and creativity based on social interactions with others. The need for such skills has generated debates about how to bring about changes and the need to envisage a new curriculum, new pedagogy, more personalised learning tools and fairer learning opportunities. Fullan (2013), Prensky (2013), and Selwyn (2011) identified several hopes or criteria that any digital learning solution should address in the pursuit of “deeper learning goals”. Fullan (2013) argues for a new curriculum based on the 6Cs: critical thinking and problem-solving; communication; collaboration; creative thinking and imagination; character education; and citizenship. The key focus of this new pedagogy was to have teachers and students working together as learning partners – a challenge which necessitates a drastic change in roles. Teachers need to review and reflect on their *sage on the stage* role and move more towards becoming a *change agent or activator*, and students also need to become more proactive partners in learning. Mapping out the new learning relationship is essential and requires focus for implementing in practice what learning would look like when adopting digital tools whilst maintaining the 6Cs.

According to Fullan (2013), students are more engaged through digital tools, which means that teachers can work more effectively due to increased enthusiasm through technological interaction. As tools are available and easily accessible, learners and educators can access and use them as needed. Prensky (2013) agrees with this and admits that it is possible that individuals literally are right when they say, "...when I lose my cell phone, I lose half my brain" (2013, p. 2). The smartphone has become an essential daily tool in our lives. It is constantly by our side and being used for anything from mathematical calculations to translations to booking flights to online trading. Like Fullan (2013), Prensky (2013) argued for rethinking the curriculum. He believed that integrating powerful technology into learning would refocus learning on three crucial areas – effective thinking, including creative and critical thinking; effective action, including entrepreneurship, goal setting, and project management skills; and effective relationships, addressing teamwork, emotional intelligence, and ethics. He also added a fourth area, effective accomplishment, which he perceived as project-based and real world-oriented, namely what one does with what one has learned.

The new curricula mentioned by Prensky (2012) and Fullan (2013) focus on changing the educational structure to acquire practical digital skills. Prensky's vision is to remove separate subjects and focus more on identifying ways to improve deeper learning through problem-solving using digital tools to facilitate the process. He also argued that schools should focus on teaching skills that computers cannot acquire, such as empathy and passion. Meanwhile, Selwyn (2011) identified five critical technological hopes addressing policymaking, management, teaching and learning for educational settings:



1. The hope for better learning.
2. The hope for fairer learning.
3. The hope for individualised and informal learning.
4. The hope for enhanced teaching and pedagogy.
5. The hope for enhanced management and organisation of schooling.

If these hopes are to be realised, then the various actors in the education ecology need to line up. Kozma (2003) believes that one needs to understand better how technologies are socially constructed, shaped, and negotiated by the actors and factors that represent them for such ‘Smart Learning Strategies’ to be successful. Educational technologies need to be approached from the social-shaping perspective, which focuses on the different levels of analysis where social actors and interests influence the use of technology. By combining technology with the various levels of educational leadership levels, one can associate the hopes with the actors at the various decision-making levels.

At the macro level, hope for digital technology needs to address the larger cultural, social, political, and economic values associated with education. Influencers at this level include educational policymakers, business leaders, and the IT industry. Here wide-ranging issues, such as educational funding, national curriculum, economic forces, and cultural norms, need to be addressed. The hope is that there is fairer and more widespread access to learning opportunities extending beyond the classroom. Thus, students can engage beyond conventional schooling, possibly prompting more spontaneous and natural learning (Sefton-Green et al., 2009).

At the micro level, hope for digital technology needs to address the teacher and individual learner directly involved with the learning processes and practices. The hope is that learning is revolutionised to focus on personalised learning tools and adopt more self-directed learning processes. Teachers would have digital pedagogical tools at their fingertips to improve their methods of delivery and teaching styles, thus increasing student engagement. It was also hoped that digital tools would support tracking and monitoring student learning whilst ‘freeing up’ teachers’ teaching ability through less paperwork (Selwood, 2005). Fullan’s (2013) four criteria also fall within this structure, although focusing mainly on the micro-level:

- i. Irresistibly engaging for both students and teachers.
- ii. Elegantly efficient and easy to access and use.
- iii. Technologically ubiquitous 24/7.
- iv. Steeped in real-life problem-solving.

One cannot put aside the reality that aspects of technologies support educators and learners. Educators and learners can identify resources through online research, ranging from studies on education to teaching and learning resources. The flexibility and availability of content empower learners to be driven by personal passions and interests. Countless opportunities for identifying tools, websites, and apps provide educators and learners with opportunities to make learning more effective, whilst learners can create their own personalised *learning spaces* (Selwyn, 2011).

The meso-level hope refers to the middle structure, organisational goals and structures of educational institutions that link the macro and micro level. These are the school leaders

and managers, parents and local stakeholders influencing the school type and organisation. The hope here is related to the enhancement of management and organisation. Digital school management systems transform school organisation and leadership into more efficient, smarter, faster, leaner organisations. In turn, this is anticipated to promote higher quality teaching, learning and assessment (Selwyn, 2011).

The focus at the meso level is on school leadership and the connections this layer establishes with the micro and macro level. All need to be in unison to provide effective structures intent on efficiency and responsiveness. Fullan (2007) calls this a *whole system change*, and for effective change to occur within schools on a practical level, it has to be driven by the leadership and individuals within schools.

The ecological perspective on technology uptake is established by Bronfenbrenner (1977), who, besides the macro, meso, and micro levels, included two other levels: the chronosystem and exosystem. The chronosystem addresses the environmental changes that occur over the life course, whilst the exosystem addresses other influences, such as parents and community organisations, affecting teaching but are not directly experienced by teachers. Bronfenbrenner's (1977) outlook was that the person impacts and is impacted by the environment. He uses the Russian dolls' idea, one doll inside the other, to emphasise how one layer is nested with another. Hammond (2019) outlines how an ecological analysis of technology within schools shows the interdependence of these layers, especially concerning the uptake of technology. This ecological outlook suggests that people within each system should listen to the various stakeholders to develop appropriate reforms.

## ***2.22 Critiques of Educational Digital Tools***

In contrast to the optimistic scenarios above, increasing numbers of critical studies view the use of digital technologies as *bittersweet* (Robertson et al., 2015) and *ambivalent* (Aagaard, 2017). One of the critical points of contention is that of market infiltration and surveillance, which is being carried out using social media and ‘free’ apps or even commercially provided learning applications adopted by schools. Under the guise of innovation, there is a reported *technological somnambulism* a tendency for most people to sleepwalk through their mediations with technology (McDonagh et al., 2015).

Technology has become so embedded in people’s social relationships that critical analysis goes missing. Users of digital technology now take it as a for granted extension of their everyday life.

### **Technology is not Neutral**

With the emphasis on preparing for the world of work and knowledge society, digital technologies are now present at the heart of learning and schooling. According to Light (2001), “technology is not a neutral tool with universal effects, but rather a medium with consequences that are significantly shaped by the historical, social and cultural context of its use” (p. 711). Neoliberal values and policies focusing on individual choice, marketing, and competition have been assimilated within education through various policies and reforms (Ball et al., 2011).

*Technological determinism* assumes that digital tools are one of the drivers and transformers of the knowledge society and part of the solution for 21<sup>st</sup> century

educational issues. Technology has been hyped as bringing about transformation within all educational aspects, from digital technologies for learning to digital technologies for organisational structures. However, is this the reality? The economic reality is that the edutainment and infotainment markets are lucrative businesses, which have resulted in economic benefits for the digital technology producers. Still, many would suggest that it has failed to sincerely address the problems education systems face. The promised quick “technical fixes” within education have not occurred (Selwyn, 2011). Instead, the rise of the Internet as a digital technology platform has increased the affective and cognitive labour or production mode within schools. Even more disheartening is that these ‘manipulative’ accounts give the impression that the education professionals are not to be trusted as technology is the solution (Weller, 2015). Recent literature indicates that the drive for increased technology in school is seen as promoting political–business values, not neutral ones. They are assumptions and ideas put forward about society’s future by various stakeholders with vested interests (Selwyn et al., 2018). In reality, this is a challenging time in education as the overwhelming inequalities between the privileged and non-privileged in terms of achievement and completion rates still exist (Apple, 2016).

### **Power, Authority, and Surveillance**

The standardisation and regulatory function of digital technologies can be said to enforce the ‘normalisation’ relationship of power and authority. Foucault (1979) described power as a network of relations that permeates society with the intent of *soul training* operated through tracking, monitoring, and control. He also elaborated on institutional normalisation within schools regarding surveillance and discipline relations.

Presently schools are institutions where power and authority are still in the hands of the policymakers and school leaders. Information is constantly being aggregated on individuals' everyday activities and transactions (Selwyn, 2011). Surveillance operates continuous control and instant communication through electronic networks, even extending to external spaces beyond the school. Such surveillance is considered the panacea for creating safer, better environments that are more conducive to learning. One such example is the legitimisation of increasing CCTV within schools being driven through a discourse of 'risk and safety' (Kupchik et al., 2006). This was the prevalent discourse in Malta by all key stakeholders, from authorities to unions.

Through 'dataveillance', more daily occurrences and aspects of schooling become visible under pretexts such as preventing intruders and monitoring professionals' work behaviours. Foucault (1979) noted that this concept meant that machinery (the tools) creates the individual's presence. Tools are used for framework practices and the organisation, operation, distribution, and breakdown of tasks. Examples of this could be logs or archives of user actions whenever a computer is being used.

### **Efficiency and Accountability**

Digital technologies have come to support school heads in carrying out their tasks and are thus increasingly seen as extensions of performativity and accountability prevalent in *new managerialism*. However, although such tools have become integral to schooling and organisational structures and transformation in such settings was expected, the organisation of schooling has remained remarkably stable, with core management tasks based around timetabling, classification, assessment, targets, and benchmarks. An

emphasis on social justice learning has permeated discussion on measurements, ranking, and funding systems, especially in higher education institutions, and these have translated into demands for fairer financial allocations (Jones, 2019).

Various keywords such as *institutional technologies*, *data processing regimes* or *batch processing* have been identified, emphasising the centrality of authority, power, and control under the guise of efficiency and standardisation (Griffith & Andre-Bechely, 2008; Hodas, 1996). Increasingly rationalised procedures intent on producing data on what is happening – measuring, monitoring, and reporting – are promoted, resulting in a surge in the production of documents (spreadsheets, reports, video recordings, test scores) (Ball, 2007; Noble 2002; Tyack et al., 1995). These procedures assist but also distort the purpose of school organisation by taking the form of “highly normative, value-laden institutional and social systems” that strengthen the administrative control of teachers and students (Hodas, 1996, p. 213).

*Dataveillance* addresses the three Vs: volume, variety, and velocity, indicating the amount of data being generated, the types and sources of data, and the speed with which it can be produced and analysed (Laney, 2001). School management platforms provide comparison, measurement, categorisation, differentiation, and performance data on students and educators. These practices occur through testing, streaming, reports, timetables, and keeping attendance. With learning analytics, the data obtained has become part of the language of evidence-based decision-making under the rhetoric of optimising learning.

Recent research shows that although digital technologies have introduced more colourful and creative resource use in the classroom, the curriculum and focus on traditional standards have remained the same. A fear is that the over-zealous collection and immediate availability of data are creating a ‘dumbing down’, or a decline in children’s cognitive skills and mental performance along with the lowering of critical thinking standards, rather than the promised innovation (Brabazon, 2007; Hamilton & Ferenberg 2005; Sigman, 2009). Doomster voices on educational technology feel that an increasing disaffection is being created (Bigum & Kenway, 1998). Moreover, the way learners are utilising technology needs to be explored as students are viewing learning as something entertaining and animated, which it cannot always be. Despite the rise of various learning alternatives, digital technologies are mainly being used for self-promotion and self-expression rather than critically evaluating information (Selwyn et al., 2018).

As for ‘freeing up’ time, digital technologies are being viewed as ‘labouring technologies’ (Selwyn et al., 2018, p. 155) rather than learning technologies, as they have altered educators’ working conditions. Tools like email and smartphones have intensified and expanded teachers’ work rather than freeing their time as more tasks can be completed anywhere at any time of the day, resulting in ‘labour changing than labour saving’ (Selwyn et al., 2018, p. 155).

### **2.3 Educational Management, Leadership and Digital Tools**

School headship entails a combination of skills, attitudes, and areas of competence that address the organisational setup and focus on curriculum and teaching whilst leading



change. This section first addresses the definition of school management and school leadership which, although strongly related, require different attitudes, skills, and competencies. It then addresses the implications of digital leadership within the school. Sub-sections address research on heads' personal attitudes, skills, and competencies about digital technology, the digital schooling tasks, and policies, as well as pedagogical implications.

### ***2.31 Definition of Educational Leadership and Management***

A considerable number of studies demonstrate the school leadership's impact on educational improvement. This can be an indirect influence, where the headteacher contributes to establishing productive school environments, and a direct influence, where leadership is identified as crucial to strengthening and improving student outcomes (Leithwood et al., 2020; Leithwood et al., 2000; Pont, 2020). These studies reflect educational policy development changes, which have led to numerous discussions over the past forty years, including relabelling the leader's role from administration to management to leadership (Bush, 2011). The role has evolved in line with policy developments from a purely centralised administrative role between the 1960s to the 1980s, to a more managerial role in the 1980s and 1990s, to a decentralised, school autonomy leadership role from the 2000s onwards (Glatter, 2014; Pont et al., 2008).

Although elements of administration, management and leadership are interlinked in schools, there are some differences in definition. Educational administration and management are usually related to activities directed towards efficient and effective

utilisation of organisational resources to reach organisational goals. It is “an executive function for carrying out agreed policy” (Bolam, 1999, p. 194). Numerous researchers see management as linked to systems and paper (Day et al., 2001), bureaucracy and accountability (Mulford et al., 2009), and assume “that the focus of leaders ought to be on functions, tasks and behaviours” (Leithwood et al., 1999, p. 14).

Educational leadership is viewed as a power process linked to vision, change, values, and purpose (Bush, 2011; Cuban, 1988; Day et al., 2001). It is intended to develop a “widely shared, defensible vision” (Leithwood, 1994, p. 8) to create a clear understanding and agreement about the organisation’s purposes. Educational leadership is about clarifying professional values whilst creating a vision that inspires the educational personnel and the external stakeholders. Educational objectives are set, led, and ultimately attained according to how the leader shapes the goals, motivations, and actions of others. Naturally, it takes a lot of energy, ingenuity, and skill to inspire, initiate change, and reach desirable goals within the institution (Cuban, 1988). In contrast to management and administration, leadership focuses more on the ongoing vision and change process than on the status quo and structure.

The shift towards decentralisation and increased school autonomy was intended to assist school improvement practices. This shift resulted in developments in work practices, including administrative and bureaucratic functions as well as working with the school stakeholders to improve school results (Spillane et al., 2015). These developments show the importance of analysing the power process when conceptualising the role of the school head (Gunter et al., 2018; Sergiovanni, 2001). The school leader’s role is shifting

from leading the school learning programme to coordinating and facilitating collaborative professionalism (Hargreaves & Connor, 2018). Kools et al. (2017) describe schools as learning organisations where professionals learn together to advance student learning. Context, however, influences how far these changes can go.

### **Leadership – Accountability and Managerialism?**

Numerous educational leadership styles are put forward. Some focus on the administration and managerial aspects, such as strategic leadership, others on teaching and learning, such as instructional leadership, and others on the change processes, such as transformational and distributed leadership. The extent to which any leadership approach is adopted depends on the educational and cultural policy context within countries. Countries with more pronounced bureaucratic and centralised traditions have more administrative leadership, whilst those with more school autonomy can exercise more direct leadership.

Observing the Maltese context, one can maintain that the local context is still highly dependent on top-down hierarchical decision making, despite the Education Act (2006), which aimed to reform the school structure from ‘top-down’ bureaucracies to ‘communities’. Top-down influence primarily arises because schools are state-maintained and due to the additional increase in governance layers resulting from this Education Act (2006). With the addition of college principals/network coordinators’ roles, headteachers have become detached from policy decision making. Important decisions are taken within the Education Leaders Council (ELC), where college leaders meet with directors to decide the way forward. This hierarchical structure has resulted in

heads feeling that decentralisation of leadership responsibility is, at best, artificial (Cutajar et al., 2013).

Even though research findings confirm the critical role school leaders play in improving education, studies also show that new expectations are being placed on the school leadership role, from educational policy and reforms related to the school leadership context (Pont, 2020). School leaders have responded to the shift from managerialism to accountability to professionalism; however, the reality is that despite changes in policy, perception, and vision, one can observe an increased focus on accountability and results in education at the expense of educational purposes and values (Bush, 2011; Fullan, 2007; Hattie, 2015; OECD, 2016; Sahlberg, 2010). While schooling and organisational structures are essential, excess attention to these could be dangerous, risking the focus on curriculum, pedagogy, and learning being pushed aside. Another risk is that heads of schools become ‘managerialist’, implying a heavy focus on implementing and managing external initiatives. This would be particularly problematic if the macro-level changes occurred without consultation or knowledge of the actual practices taking place within the school and the classroom. An example could be setting targets by government officials at the macrostructure, with monitoring, inspections, and government prescriptions leaving little scope for schools to decide their own educational aims.

Wright (2001) labels this as “bastard leadership” where “visioning is a sham” as school leaders are reduced to implementing the values and policies of the government and its agencies. He states that “leadership is the moral and value underpinning for the direction of schools is being removed from those who work there” (Wright, 2001, p. 280). Such

leadership is substantially located at the political level, where it is not available for contestation, modification, or adjustment to local variations. Gold et al. (2003) contested this, saying that headteachers were still 'value carriers' as they mediated government policy through their own values systems with vision and values being shared and articulated by all involved. However, improving individual schools from the inside still rests with the head of school and teachers. Wright (2003) responded that as the values could not directly challenge government prescribed imperatives, this was still bastard leadership. Governments endorse visionary leadership in schools so long as these visions do not depart significantly from government imperatives.

This debate on managerialism leads us to attempt to distinguish between educational leadership and management. Although the language of management has been joined or superseded by the language of leadership, the activities undertaken by heads and senior staff could indicate otherwise. As Bush (2011) emphasised the shift in wording could be just a semantic modification and not a conceptual one, reflecting a more fundamental change.

The reality is that both leadership and management elements need to be given prominence by heads if schools are to operate effectively and attain their objectives.

While a clear vision may be essential to establish the nature and direction of change, it is equally important to ensure that innovations are implemented efficiently and that the school's residual functions are carried out effectively while certain elements are undergoing change. (Bush, 2011, p. 9)

The reality is that leading educational institutions requires a balancing act to promote efficient schooling with effective teaching and learning.

### **Delegation vs Distributed Leadership**

Another area that needs to be explored is that pertaining to delegated and distributed leadership. Identifying the difference can help further the discussion within this study, especially when elaborating on digital tools. As outlined above, leadership is a process of influence intended to bring together common goals and objectives within the school setting (Bush, 2007; Cuban, 1999) whilst achieving current goals. Thus, the school leader aims to influence, evaluate, and reflect changes to reach desirable outcomes (Bush, 2007; Silox et al., 2015).

Distributed leadership implicates a shift in the overall decision-making process by including all stakeholders and bringing them onboard with school improvement plans. Silox et al. (2015) define distributed leadership as shared leadership for school improvement, where collaboration, teamwork, and shared decision-making help the wide adoption of change. Of course, one will always find individuals averse to change either because they are uncomfortable, lack knowledge or understanding of it, or want to maintain the status quo. However, distributed leadership provides a helpful bottom-up approach since it requires commitment from a cohort in an organisation (Silox et al., 2015).

Delegation is related to sharing and assigning jobs or tasks to make the workload more manageable, typically taking a top-down approach. Silox et al. (2015) specify that there

is a dichotomy between distributed and delegated leadership as delegation implies the assignment of responsibility, whilst distributed leadership is seen as building on the professional capability of staff. It seeks to create a school culture based on trust and respect where leadership activities are based on staff expertise, the complexity of the task and the organisational structure. Distribution implies that leadership activities are spread formally and informally among the staff, shifting the focus from organisational structure and hierarchies to people (Gronn, 2002). Such an approach helps a school flourish and renew itself as leaders come and go.

### ***2.32 Heads of Schools and Digital Tools***

The uptake of digital tools and technology within schools is a development or change embarked on by most educational systems. As with any other change, school leadership's attitudes and goals impact the adoption and uptake of technology. As Fullan (2001) outlines, an effective school leader should possess an understanding of change, an openness to innovation, and a willingness to encourage learning and teaching. Thus, this section defines technology leadership, and then discusses the impact of school leaders' perceptions and attitudes towards digital tools, along with critical aspects of technology uptake within schools. A further discussion covers how school leaders use digital tools and for which purposes.

#### **Definition**

The first issue that needs to be addressed when discussing leadership and digital tools is that of definition. Different terminology and descriptions have been utilised, ranging

from *technology leadership*, *technology for leadership* and, more frequently in higher education contexts, *e-leadership*. These terms can fit the context of most brick-and-mortar schools, but e-leadership is usually associated with virtual contexts. The common factor amongst these definitions is the word ‘technology’. However, the individual associated with technology leadership is not necessarily the same individual assigned that role.

*Technology leadership* within a school refers to leadership that looks at how the purpose and access of technology may support teachers in the classroom (Dexter, 2006).

Technology leadership is a term that can be assigned to two or more separate roles. One role is that of the head of school, who usually leads change for schooling, technological, or instructional purposes. The other is generally associated with technological savviness and is taken up unofficially by technologically apt and resourceful individuals, such as e-learning teachers, heads of department (HODs) of Information Technology, or even self-learned, technologically curious educators. Such individuals would lead the way, guiding and supporting other individuals to apply new tools for teaching processes. Such a leader is not necessarily assigned a leadership title or role but offers the skills, knowledge, and practice to inspire other educators.

With the discussion on technology leadership, one needs to address *technology for leadership*, including the numerous digital tools available and potentially used for leadership purposes. These tools are used for schooling and organisational, surveillance and marketing, and school improvement. However, the issue remains that one can have



all the digital tools at one's fingertips, yet this does not necessarily indicate that they can be integrated for educational leadership purposes (Selwyn, 2011).

### **Role of the Head of School in Technology Uptake**

As for any school-based change or improvement, the head of school is the leading individual *building a shared vision* for everyone in the school or learning organisation. This shared vision needs to progress towards *team learning* where discussions and information sharing are developed through working teams that generate standard processes and practices (Senge, 1990). Such an approach is essential for the integration of technology within schools. Heads of schools have many areas of responsibility, including schooling and instructional improvements, with the added task of providing direction for digital tools' uptake. The areas of responsibility are then multivariate and complex. "School leaders' work in this area involves, for example, initiating, implementing, maintaining, documenting, and leading for digitalization for themselves, teachers, guardians as well as for the schools as organizations" (Lindquist & Petterson, 2019, p. 225). What makes leading change more complex is that heads must prioritise leading digital change amongst the many other essential ongoing tasks (Dexter, 2008; Petersen, 2014).

The head of school and school technology leaders need to guarantee that a school-wide shared vision for technology is being developed and ensure that the resources, coordination, and climate are in place to realise it (International Society for Technology in Education (ISTE), 2013). Anderson et al. (2005) state that "although technology infrastructure is important for educational technology to become an integral part of a

school, technology leadership is even more necessary” (p. 74). The ISTE technology standards for educational leaders target the knowledge and behaviours required to empower teachers whilst supporting student learning. The five critical roles identified are:

1. Equity and citizenship – increasing equity, inclusion, and digital citizenship practices
2. Visionary planner – leaders engage with others in establishing a vision, strategic plan, and ongoing evaluation cycle for transforming learning with technology
3. Empowering leader – a culture is created which empowers teachers and learners to use technology in innovative ways to enrich teaching and learning
4. Systems designer – teams and systems are built to implement, sustain, and continually improve the technology to support learning
5. Connected learner – continuous professional learning is modelled and promoted

(ISTE, 2013)

These roles outline key aspects that technology leaders need to be aware of and maintain, focusing on improving teaching and learning practices within school settings. Aside from these aspects, the head of school is also responsible for organising schooling processes. There seems little doubt that effective technology leadership requires substantial education and technology competencies (Mrazek et al., 2005).

The head of school’s role and their digital competencies are vital factors in the uptake of digital tools for digitalisation and pedagogical development (Lindquist & Peterson, 2019). The extent of insight required by school leaders needs to be at the organisational

level, in tandem with the various stakeholders' digital competencies, i.e., educators, students, guardians, and the community. Leadership is further complicated by the interplay between the pedagogical, digital, methodological, and organisational competencies required (Avidor-Ungar & Shamir-Inbal, 2017). Heads must understand the importance of digital tools for various educational purposes. Sauers et al. (2014) found that leaders need not be technology-savvy themselves so long as they know the essential elements of technology leaders and surround themselves with the right people.

While the literature seems to place the locus of digital leadership on the head of school (Kearney & McGarr, 2009), many studies have shown that shared responsibility is required for any initiative to become embedded and distributed (Fullan, 2007). This distributed leadership can take on the form of SMTs, pioneer teachers, mentors, ICT coordinators, or network administrators (Lawson & Comber, 1999; Schiller, 2003). Deeper organisational learning within schools is best supported by having collaborative structures as these imply a greater collective capacity for change and improvement (Muisj et al., 2011; OECD, 2010). Shared leadership is seen as helping to establish a school culture that enables innovation (Kirkland & Sutch, 2009). By encouraging collaboration across the institution, the various teaching stakeholders become involved in the learning and planning process and subsequent implementation (Kozma, 2003).

Research by Harris et al. (2013) suggested that distributed virtual leadership may not fundamentally differ from that occurring within physical schools, albeit processes are carried out using ICT. According to this view, the core objectives of leadership remain the same in the virtual world. Yet, the processes and patterns have changed as one needs

to move faster between individual, collective, lateral, and horizontal activity levels. Distributed leadership in the virtual world is needed to foster decision-making capacity among all members whilst being “conceptualized and understood as generating and transferring knowledge, trust and shared purpose in a distributed way” (Harris et al., 2013, p. 934).

Another innovation is the Management Information Systems (MIS) for school administration. Usually, the head of school is the individual responsible for the various administrative tasks for managing the school. MIS supports the efficiency of office tasks, such as maintaining student and personnel data, staff allocation, assessment records, timetabling, and finances, which previously required a lot of time to carry out and monitor. MIS supports an extensive range of administrative activities and provides essential data about the school and learning. In effect, such integrated systems support decisions at operational and strategic levels in a timely and consistent manner. Gurr (2000) claims that MIS had changed decision-making, workload, human resource management, communication, responsibility, and planning. The belief was that such systems empowered staff at all levels whilst increasing accountability. Zain et al. (2004) observed some positive changes due to MIS systems in Malaysia, including a more advanced ICT culture within the school, more efficient administration of all school resources and more accessibility to information. Personnel in senior management valued such systems as they eased the undertaking of management and administrative tasks. Still, research has also identified several key areas to be addressed for MIS to be effective and for further adoption, including tracking how data is going to be used,

planning for the increase in initial workload, and tackling gaps in confidence and digital skills (Demir et al., 2006).

### **Heads' Digital Attitude and Competencies**

Even though technology leadership is seen as a school community characteristic, the heads' competencies, beliefs, and understanding are essential for the development of an ICT school culture, whether to improve teaching or learning or for more effective and supportive collaboration (Anderson & Dexter, 2000; Otto & Albion, 2002; Wong et al., 2013). Heads who had a positive attitude and a high level of interest in ICT influenced teachers' technology uptake as they believed that ICT was a solution for improving students' learning (Cakir, 2012; Wong et al., 2013). These attitudes and beliefs were reflected in the various school improvement measures taken up and implemented across the board. According to ISTE standards, educational leaders should be sources of inspiration in implementing the organisation's shared vision (Williamson et al., 2009).

Aside from adopting an inclusive vision of digital tools, school leaders act as role models by providing encouragement, direction, and knowledge-sharing (Baylor & Ritchie, 2002; Ertmer et al., 2012). Providing the technology does not necessarily lead to changes, as school leaders need to embrace technology and use it themselves (Rogers, 2003). The head of school must adopt a style and attitude of collaboration and cooperation whilst continuously striving to learn about these developing technological tools. That is why distributed leadership is often associated with technology uptake within schools.

One of the key technology issues is school leaders' preparation and keeping up with developments. Professional development for school leaders needs to be ongoing and combined with leadership and technology, including discussions on pedagogy, digital tools, and broader organisational and leadership knowledge (Albion, 2006; Avidor-Ungar et al., 2017). Several researchers on the digitalisation process in schools identified that leaders need to be effective, well-informed, and up-to-date with developments (Afshari et al., 2008; Dexter, 2006; Schiller, 2003), which is quite challenging considering the ongoing development of technology. It is important to know the tools and how and whether the tools are practical for schooling and learning purposes. It is easy to attend a video conference for virtual learning and the numerous tools that exist, but selecting the most suitable for the learning and pedagogical context is time-consuming and requires research. Getting it wrong can have significant consequences, reflecting on the leaders' preparation and ongoing development. Leaders may receive professional development in using various software and applications; however, they often feel that more attention is needed on integrating tools within school settings and the curriculum (Mrazek et al., 2005).

School leaders themselves are often reported as experiencing several dilemmas concerning digital tools within the school as they see the importance of integrating technology within the schooling and curriculum but feel they lack technological expertise. In a study of US schools, heads were reluctant to pass decision-making about technology to others (Brockmeier et al., 2005); even though no reason was provided, one factor could be fear of making uninformed decisions due to lack of access to information and new knowledge.

Personal attitudes towards using ICT in education also influence the integration of digital tools for professional uses. School heads who had positive attitudes towards technology used the computer for their daily administrative and instructional tasks, which increased their competencies and computer use in school (Afshari et al., 2009; Afshari et al., 2010; Felton, 2006; Otto et al., 2002; Schiller, 2003). School leaders' extensive use of digital tools for information, productivity, and instructional practices provides teachers with a seamless learning opportunity (Afshari et al., 2010).

### **Heads' Use of Computers and How this has Changed their Role**

Available ICT tools for educational administrative purposes include the internet, software, and hardware such as computers, printers, scanners, and photocopiers (Kazi, 2012; Mwalongo, 2011; Susmita, 2007). Numerous other technological tools are present and are now considered essential within schools, such as CCTV, all-in-one desktop computers, projectors, social media apps, solar panels, and various software applications for classroom use. The essential tool used in all research studies was the Internet, used for communication, managing resources and materials, and sharing for collaboration (Ghavifekr et al., 2013).

As school managers, headteachers are expected to maintain good financial and data management. These are essential aspects that support school effectiveness, whether by maintaining sound financial operations or maintaining updated information and records about curriculum and assessment at various levels. Such applications helped heads obtain new knowledge and records whilst making more informed decisions to solve problems.

Hines et al. (2008) researched how electronic communication changed school leaders' role in a Texas school. Through the study, two key topics emerged: principal roles and computer-mediated communication. Under the principal role topic, they noted: (a) an increase in the volume of information received; (b) more time spent at the computer and working, especially at home; (c) being more accessible to all the stakeholders; and (d) providing training to future principals and staff on using electronic communication appropriately. Under the computer-mediated communication theme, principals noted: (a) less face-to-face communication occurring, resulting in differences in style and syntax when communicating electronically; (b) communication received via email being different, with people sending content that would not be said face-to-face in a meeting; (c) missing non-verbal cues, creating numerous misunderstandings; (d) difficulty in creating boundaries between home and work life; and (e) new issues and complications related to legal issues and individual privacy.

Further to this study, Waxman et al. (2013) identified six areas in which headteachers were using technology: as the primary communication tool; as integrated into teachers' classroom instruction; for data-sharing and management; as a resource for finding information; in administrative tasks, such as attendance taking; and student learning. This indicates that headteachers viewed technology as a valuable resource for schooling and classroom teaching and learning. Positive views and attitudes towards technology filtered down to school staff, who were being observed by teachers through their attitude and use (Anderson et al., 2005; Baylor et al., 2002; Chang, 2012; Isabelle et al., 2003). Thus, whether directly or indirectly, heads of schools are still being identified as technology leaders.



## **2.4 Digital Leadership or E-Leadership?**

Digital leadership and e-leadership are frequently confused and used interchangeably. In this section, the concept of e-leadership as a unique term is discussed, followed by a further analysis of the differences between face-to-face leadership and e-leadership, addressing various leadership skills and competencies.

### ***2.41 Definition of E-Leadership***

With the constant development of digital technologies, the adage ‘information is power’ has given new meaning to organisations and leadership. These tools have altered “the patterns of how information is acquired, stored, interpreted and disseminated – and that in turn, alters how people are influenced and how decisions are made in organizations” (Avolio et al., 2003, p. 327). E-leadership is multifaceted and initially explored within business settings in virtual business teams dispersed worldwide, working across different time zones; however, the term was later taken up in higher education contexts and by virtual schools. The initial definition of e-leadership addressed the “social influence process mediated by Advanced Information Technology (AIT) to produce a change in attitudes, feelings, thinking, behaviour and/or performance with individuals/groups and organizations” (Avolio et al., 2000, p. 617). This initial definition focused on the essential characteristics of leadership’s influence, albeit in a virtual setting. Gurr (2004) outlined three distinct elements of e-leadership:

1. Treating leadership as a continuation of existing leadership views, not just a new label.

2. Focusing on the hyperlinked rather than hierarchical leadership with its ensuing paradoxes and dilemmas.
3. Understanding that assumptions about leadership may be changing due to ICT mediated environments.

All the elements mentioned by Gurr (2004) resulted in changes in interpersonal skills and behaviours and the approach to leadership. With further developments in technology-enhanced environments and especially research undertaken in learning contexts such as virtual schools and higher education, further clarifications of e-leadership were required. Research on e-leadership is grouped into three key areas:

1. The Social Influence Process of leading in technology environments: This initial theory of e-leadership was defined as “a social influence process embedded in both proximal and distal contexts mediated by AIT that can produce a change in attitudes, feelings, thinking, behaviour and performance” (Avolio et al., 2014) as updated from the initial definition (Avolio et al., 2001). Avolio and Kahai (2003) felt that a *quiet revolution* had occurred as significant human interactions were now mediated by information technology, with leadership exhibiting similar content and style as traditional face-to-face leadership. Moreover, the interaction between leaders and followers changed as boundaries were blurred due to ICT qualities. All this impacted how the organisational vision was being set and working towards organisational goals.
2. Adoption of technology in organisations: As Avolio et al. (2000) outline, “the repeated appropriation of information technology generates or transforms social structures, which over time become institutionalized”, so one must explore how

human and information technology systems are being integrated within organisations. This perspective looks at how the organisation's leader has "the ability to effectively select and use ICTs for both personal and organizational purposes" (Van Wart et al., 2017, p. 529). ICT implementation and integration for the benefit of the learning community is increasingly seen as the head of school's responsibility (Gronow, 2007). Research within educational contexts addresses how the leader influences technology uptake within learning contexts and serves as a role model. Within educational contexts, this outlook also includes "the effective promotion and integration of technological learning and literacy into and within [educational] environments" (Preston et al., 2015, p. 991), meaning that technology for learning is being integrated within the learning context.

3. Qualities for leading in digital learning environments: This focuses on "the fostering of leaders who have the qualities to lead in a digital culture" (Brown et al., 2016, p. 8). Digital education leadership is concerned with providing direction in terms of digital education by enhancing access, capacitating peers, making informed decisions, and cultivating innovation by achieving learning goals.

All three elements are interlinked yet need to be identified separately, as leadership and technology constantly affect and transform each other (Dasgupta, 2011).

Here, one can observe the similarity between technology leadership and e-leadership. Through technology, both fundamentally change the way leaders and followers interact within and between organisations. However, whereas e-leadership needs to address the

overall leading of the organisation, technology leadership focuses more on the appropriation and uptake of technology. Table 2.1 clarifies the characteristics of three fields in which technology and leadership are discussed.

**Table 2.1**

*Characteristics of Leadership and Technology*

	<b>Technology leadership</b>	<b>Technology for leadership</b>	<b>E-leadership</b>
Context	Physical settings	Physical settings	Virtual setting/ Higher education
Common factor	Technology and digital technology	Technology and digital technology	Technology and digital technology
Leader/s	School head and technologically savvy educators	School head and leadership team	School head hyperlinked with educators
Area of Focus	Technology uptake within school mainly for teaching processes	Schooling and organisational tools, e.g., tools for surveillance and marketing; tools for school improvement	Digital tools integrated for leadership purposes and institution improvement

**2.42 E-Leadership Context**

AIT provides an essential dimension of the e-leadership construct (Avolio, 2001). E-leadership can occur at any hierarchical level, range from one-to-one to one-to-many interactions within and across large units and organisations, and run across time zones. The critical element of e-leadership is the ongoing interaction between leadership processes, group processes, individual processes, and AIT built on real-time information and greater knowledge sharing with stakeholders whilst building customised relationships. Leadership infiltrates all organisational levels where decisions are made, whether with clients, customers, or between workgroup members.

Within virtual learning environments such as cyber schools, research conducted on e-leadership argued that “how principals meet this new responsibility will determine the online school’s viability in terms of teacher performance and student learning” (Quilici et al., 2011, p. 143). Besides exploring the focus on leading in virtual environments, covering aspects such as flexibility and openness, awareness of pedagogical differences, blended professional learning opportunities, and technological savviness, Quilici et al. (2011) identified differences between physical and online school leadership. These differences mainly included the daily running and operational management of learning. A cyber school leader had more opportunities to adhere to daily and long-term plans and review data daily, as there was less student interaction and teacher supervision. Daily aspects such as student discipline, hall or break monitoring, and bus duties were extensively reduced, thus focusing more on the instructional aspects of running a school (Richardson et al., 2016). This research conducted on cyber school leadership lends itself to the concept of e-leadership as something that occurs across dispersed locations.

Jameson (2013) outlined three major characteristics when reviewing e-leadership in higher education: purpose, people, and structures and social systems. *Purpose* refers to visioning, strategic planning, and learning and teaching. *People* includes collaboration, collegiality to values, behaviour, interpersonal skills, and professional development. *Structures and Social Systems* refers to the organisational structures for policy and change management coupled with the technology infrastructure and quality management.

Other research, especially concerning the people dimension, often promotes a distributed leadership style (Avolio et al., 2009; Gurr, 2004; Jameson, 2013) for virtual environments as it was more clearly associated with successful school leadership (Ottestad, 2013). All this indicates that studies focusing on e-leadership seem to be an extension of existing leadership theories.

### ***2.43 E-Leadership Competencies***

Several factors impact the quality of e-leadership, namely the degree of face-to-face interaction, media richness, and team composition. Hart and McLeod (2003), when studying *face-to-face communication* with e-leadership, divided communications into task-oriented and social-emotional categories. Findings suggested that encouraging a variety of task-related communication helped foster closer relationships more easily built into face-to-face environments. *Media richness* refers to technology's capacity to provide immediate feedback, cues, channels, personalisation of messages, and language variety, all of which become crucial interaction factors (Avolio et al., 2001). The frequency of message, not length, was essential to fostering closer relationships. For virtual team composition, e-leaders act as liaisons, setting and conveying team directions and coordinating team operations in an environment where the strain of dispersion is evident. Van Wart et al. (2019) identified six e-competencies that e-leaders should aim to master:

1. e-Communication – communication clarity, lack of miscommunication, and management of communication flow.

2. e-Social skills – good leadership support with personalised, customised communication.
3. e-Team building skills – team motivation and accountability whilst recognising teams and their members.
4. e-Change management skills – change is managed through effective transitions and implementation.
5. e-Technological skills – basic technological skills whilst staying abreast of new developments. The leader also adopts a blend of traditional and virtual methods to lead.
6. e-Trustworthiness – trust, diversity management, and a work-life balance.

Although differences could be identified between traditional leadership and e-leadership, the reality is that ICTs are prevalent everywhere. As one can note, the above competencies are essential for any leader in any setting, whether face-to-face or virtual. The virtual setting includes the added component of digital tools; however, leadership concepts of addressing vision, setting directions and goals, maintaining motivation and trust, and inspiring followers are still the same.

#### ***2.44 Questions about E-Leadership***

The concept of e-leadership raises numerous queries and dilemmas. Although e-leadership is essentially discussed as a separate concept for virtual settings, whether for business or virtual schools, one can now observe that the permeation of technology within schools requires a more focused analysis. When talking about the e-leadership

concept within face-to-face settings such as schools, what does one mean? Are we talking about e-leadership, or do we require new terminologies like hybrid or blended leadership? The idea of hybrid and blended leadership is taken from the teaching scenario where teachers are required to teach students using either face-to-face or virtually separately (blended) or simultaneously (face-to-face and virtually).

This leads to several queries concerning hierarchy, authority, and power. In reality, is there a separate concept of leadership when working in such virtual environments? The first area to address is that digital tools have created a flatter organisational structure. Hierarchical structures are no longer viewed as vertical transmission lines but somewhat more diagonal, almost horizontal leadership. The immediacy and availability of digital tools for communication, data processing, etc., result in more distributed power and work. Power is no longer held exclusively by the leader but is distributed further 'down the lines' or horizontally; hence, the leader can be viewed as an overseer of the workflow. Additionally, although decision-making is mainly the leader's prerogative, this is being shared by other specialists who focus on particular areas and work extensively on identifying the various areas of concern, development, and strength. This leads to another query. Is e-leadership a stand-alone concept or just an extension of another leadership style? As an individual concept, e-leadership possibly requires a distinct set of attitudes, skills, and tasks. If, as research suggests, it is bound to distributed leadership, what added values do digital tools contribute to the concept?

Regarding e-leadership framework characteristics outlined by Jameson (2013), these are observed within the school and educational settings with the added components of



instructional practices. New demands for additional skills, understanding, dealing with intense levels of information, and higher interpersonal and intercultural skills are essential for any e-leader, even within educational settings. Is this the reality observed in Maltese schools? Is holistic leadership even viable considering that heads of schools are being swamped with administration, managerial, maintenance, instructional, and technology leadership tasks?

Rapid technology changes are resulting in a myriad of changes within settings, and e-leadership concerns vision planning and improved teaching and learning (Jameson, 2013). However, the technology uptake narrative usually starts from the grassroots, individual experimenter's intent on trying out alternatives for classroom settings. The school leader/e-leader needs to be technological savvy, even if not an expert, a critical analyst of any digital tool's proposed use, whilst ensuring quality and standards.

All the above queries are essential components of the e-leadership narrative within school settings and need to be addressed. Structures, processes and people are crucial elements of the e-leadership narrative.

## **2.5 Conceptual Framework and this Study**

There is no single idea of a conceptual framework. Had I opted for a top-down or deductive approach, the conceptual framework would have been closely tied to the generation of the hypotheses to be tested. An example of a hypothesis, if following this approach, could have been whether male headteachers were more or less likely to exhibit a certain pattern of e-leadership. The hypothesis would be based on my

understanding of the literature, and depending on the quality of the literature accessed, I could have used my conceptual framework to not only state hypotheses but to model the relationship between key variables, such as teacher beliefs and characteristics, school context, and the dependent outcome of e-leadership style. I did not go down this route as I did not feel there was a workable definition of e-leadership in the first place. My conceptual framework instead developed by following an inductive or qualitative approach. Here the conceptual framework generally sets out ways of understanding the key terms to be used. The purpose of the literature review was to help myself and the reader understand the definitions and tensions in the concepts of technology, leadership, and e-leadership. I summarise my initial understanding of each below.

*Technology* addresses all the various technological aspects prevalent within a school, ranging from tools for communication, surveillance, administration, teaching within the classroom, and learning tools. When identifying and focusing on this multitude of tools, one finds patterns of use, but one can appreciate that most tools do not have one single use but aim to integrate roles, functions, and tasks. Technology in education tends to be glorified and considered the saviour of numerous issues. The reality is that more critical analysis needs to be conducted to evaluate the reliability, validity, and usefulness of technology. What is being romanticised and considered essential for efficiency could actually be creating more workload and well-being issues for leadership.

In this study, *leadership* is contextualised as school leadership, where the concept is analysed and broken down into smaller, interlinked sections of school administration, management, and educational leadership. Although all are important themes, communication, inclusivity, participation of stakeholders, especially educational personnel, and the decision-making process are the primary focus due to their connection with school improvement. The question then is whether the use of digital tools by the head of school leads to more fluidity in school leadership, and if so, how fluidity may lend itself, although not exclusively, to distributed leadership styles that empower and encourage active participation. This is an important question as a lot of the literature focuses on classroom use of technology rather than leadership, which is understandable but not the focus of my research.

The concept of *e-leadership* arose from studies of virtual, distant environments. Schools are physical environments, but with the multitude of digital tools schools have, they have become blended environments too. Digital tools are used in the school's administration, teaching, and general organisation. Notwithstanding uneven distribution, there is general accessibility to digital tools throughout the school and home. Information and communication tools provide a connection at a distance, facilitating knowledge sharing and ongoing work processes. These three core terms are outlined in the table 2.2 below:

**Table 2.2**

*Outline of Core Research Terms*

Key term	Associated meaning	Key focus
Technology	Any digital or general ICT tool available within school settings, including hardware and software for organisational, administrative, teaching and learning purposes	Is technology helpful or romanticised?
Leadership	Aspects essential for school improvement and participation	Participation and inclusion in school improvement processes and elements of distributed leadership
e-Leadership	E-leadership or digital leadership?	Can it be applied to physical school settings?

## **2.6 Summary**

School leadership is a crucial influence on student learning. This study addresses vital school leadership processes that, although “second-order activities” directly influence first-order operations focusing on technology’s pedagogical use, educational leadership, management information systems, quality assurance, and administration support learning and teaching (Jameson, 2013, p. 894). Studies have attempted to bring these activities closer together by looking at the use of digital tools to assist vision and improvement as leadership goals.

The concepts of technology and e-leadership within educational contexts were outlined in this chapter. The initial section addressed the hopes pinned to technology and challenges arising from this digital pervasiveness, particularly within educational settings. These opportunities and challenges led to an elaboration of management and

leadership concepts and the digital impact tools have at the various leadership levels, whether macro, meso, or micro. Prevalent research in the area explored the uptake of digital tools for classroom teaching and student learning. Technology leadership was viewed mainly as: educators' uptake of digital tools was essential for developing, learning, and maintaining student engagement and motivation. E-leadership as a separate concept was outlined by discussing its roots in virtual settings and transference to brick-and-mortar.

## **CHAPTER 3: METHODOLOGY**

### **3.0 Introduction**

The methodology chapter addresses how I organised the data collection and analysis or, as Brundett and Rhodes (2014) put it, “the broad system or body of practices and procedures that will be employed to investigate a set of phenomena” (p. 13). This means that the various procedures and methods employed, such as research design, research methods, data collection, and analysis, have been outlined. However, the key to any qualitative research is the author’s positioning concerning the various decisions taken. This is discussed extensively in the philosophical background.

### **3.1 Philosophical Background**

Systematic school-based inquiry is a crucial component in the advancement of educational knowledge and wisdom. The intent is to continue building and improving school systems through such research by shedding light on particular areas. As Cohen et al. (2001) state, the value of educational research is to “enable educators to develop the kind of sound knowledge base that characterises other professions and disciplines; and one that will ensure education a maturity and a sense of progression it at present lacks (p. 45)”.

As observed from the research questions, I explored and inquired about a social reality from the school leaders’ individual perspectives. The study of digital tools within schools mainly focused on the uptake of these digital tools for teaching and learning processes. Through this study, I aimed to delve deeper into the various digital

technologies heads of schools encounter daily and how these tools influence their role as administrators, managers, and leaders. By exploring heads' engagement, practices, and experiences with technology, I am better positioned to understand outcomes, emotions, and concerns.

An interpretivist paradigm was adopted for this study. Apart from being the researcher, I am also an assistant head and member of the SMT, although presently working in a post-secondary context. Stenhouse (1981) elaborates upon two opportunities for such research situations: understanding the deeper issues underlying the educational phenomena from an equal partner's perspective; and conducting actual *research in education*, meaning being directly and consistently in touch with the phenomena under study.

By focusing on the individual's perception and worldview of digital technology, I had the opportunity to further understand and immerse myself into the participants' professional worlds at a particular moment in time. This snapshot provided me with an insight into participants' worldviews in the knowledge that their views were in a constant state of revision (Bryman, 2016). As Blaikie (2010) described, "reality consists of representations that are the creation of the human mind" (p. 92). Reality is dynamic and ever-changing, depending on different reference frames (Brundrett et al., 2015). Different realities, perceptions, and assumptions are formed through constant active interaction and meaning making. Through exploring individual realities, common factors, elements, and theories can be identified. This leads to establishing a social

reality that is a shared vision produced by social actors through their daily experiences (Creswell, 2009).

As Morrison (2012) argues many *facts* or constructs are waiting to be uncovered by exploring individuals' personal understanding. This exploration of meanings is intended to offer a detailed description of the role and environment from the subjects' perspective (Grix, 2002; Morrison, 2012). In this study, research participants openly presented their reality as it covered technological practices whilst elaborating further on educational practices that could identify how to improve schools and possibly even standards (Brown et al., 2012; Burton et al., 2014). Aside from providing their *realities*' such accounts also provide the participant with opportunities to reflect in a structured manner on a specific situation or tools, in this case, digital tools.

I believe that digital tools in education are changing the head of school's role by creating other activity levels, adding to the current multitude of decisions heads need to make every day. Furthermore, as Gardland and Tadeja (2013) state, it is believed that "educational administrators inspire and lead the development and implementation of a shared vision for comprehensive integration of technology to promote excellence and support transformation throughout the organization" (p. 6). This forms part of my reality, but I needed to elaborate it further to understand my participants' views.



### ***3.31 Positionality***

Following the philosophical underpinnings of this study, the issue of positionality needs to be outlined. This refers to how the ‘lived experience’ of the researcher, namely the background, beliefs, and values, could affect a study. The values and beliefs of lifelong learning, the importance of collegiality, and collaboration and teamwork for impactful and effective learning are basic principles and beliefs which I hold and believe in.

As the researcher and member of the SMT in a middle leadership role, I found myself researching school leadership from both an insider and outsider perspective. As I had been an assistant head within state schools for about seven years, I could understand and sympathise with the daily realities experienced by the head. This could have implications for this study as my subjectivity could have impacted the reporting of findings. However, through constant ongoing self-reflection throughout the various processes of the study, I did my utmost to question and address my biases and perceptions. I worked hard to keep a distance when collecting and analysing data, which was made easier since I was working in a post-secondary leadership position during this research with different realities to a compulsory school setting. At the same time, I could see an advantage in that I could closely relate to the daily reality of headship, as this reduced the asymmetry caused by gaps in knowledge and understanding.

When elaborating on the concept of technology within schools, although I am interested in the area, I am constantly critical of it. I believe that technology will never replace humans, as learning is based on relationships. Technology could be seen as supporting

and facilitating several schools' administrative processes, such as timetabling, attendance, and databases. Initially, my research questions focused on how school leaders were using technology; however, the concept of e-leadership emerged as the study progressed. This development from my initial research questions led me to be even more vigilant about my biases and possible prejudices about the topics under study. I wanted to avoid being over-enthusiastic or over-optimistic about my findings. I constantly reflected on the whole research process, from the interviewing phase to the data analysis and discussion of findings. By re-reading, re-checking, comparing, and clarifying throughout the data analysis process, I did my utmost to reduce any possible bias from a school leadership or technology use aspect.

### **3.2 Research Methods**

As Scott et al. (2006) emphasise, interpretivism focuses on interpreting meaning, namely human interpretation, and action about the researched area. The heads' meaning-making practices were organised to examine the patterns arising from the data, recognise the connections, and explore consequences regarding technology use by school educational leaders. As argued by Southworth (2002), "we cannot know what effective leadership means unless and until we include the stakeholders' perspectives and their constructions of leadership" (p. 74). The same applies to e-leadership, necessitating the collection of qualitative data.

### ***3.32 Feasibility Study***

I decided to conduct a feasibility study to focus further on the study area as my initial interests in the area were rather broad. I set up a series of meetings with an assistant director (quality assurance) within the education department and two Maltese school senior management members (head and assistant head of school) with whom I was working at the time. Through these discussions, I explored the relevance of technology within schools, emphasising technology for school management and leadership.

Through the assistant director's discussion, I became further aware of the quality standards and auditing procedures within state schools. When elaborating on the school audit and review process, the following components were highlighted:

1. School leadership, audits, and school reviews focused on the head of schools' clarity of vision, human relationships, and the school's internal review process.
2. Teaching and learning covered curricular, pedagogical, assessment, and classroom relationships. Here elements of digital tools and resources were included in the final report writing.
3. The school review's final component focused on the school ethos, namely the climate and relationships between internal and external stakeholders, such as students, guardians, and the community.

From this discussion, it seemed clear that standard leadership features were externally reviewed; however, no mention was made of digital tools. Moreover, their role in improving leadership, ethos, and climate was not specifically mentioned apart from their

role in pedagogical practices. This clarified the need for a study on digital tools for school leadership. From the discussion with policymakers, it seemed that digital tools were either being ignored, or it was being assumed they were integrated into school processes and systems.

Two further discussions were held with two senior management members where I was working when I started my research. These were the head of school and assistant head of a secondary school. Here, I had the opportunity to obtain feedback from both ends of the digital spectrum, namely, a head who was well versed and trained in computer software for schooling purposes and an assistant head who preferred the direct relationship approach with limited digital use for carrying out tasks. Various feelings about technology were exposed throughout the discussions, from feelings of thankfulness for available digital tools to carry out processes, such as timetabling, and feelings of incompetence, inadequacy, and guilt. At times, both felt that they were not fulfilling their role for numerous reasons. These discussions helped me to identify key topics that needed to be addressed within the research, namely:

- Heads' understanding of technology
- Their daily interaction with technology for tasks and in-school educational leadership
- Their personal feelings about their interactions with technology

These exploratory interviews and discussions led me to my overarching question: Can one elaborate on the concept of e-leadership within school settings? The question

seemed relevant as e-leadership was being discussed in virtual schools and online settings, but could the same concept be adopted for physical school settings? Is e-leadership a helpful construct when addressing school leadership in general?

These led to a few actionable research questions that guided the data collection for this study:

- Who are the school leaders, and what do they do?
- What are school leaders' personal experiences, attitudes and perceptions towards technology?
- How is technology being used for management and leadership in school, and what changes are triggered by the use of technology?
- What do school leaders see and report as difficulties/opportunities in using technology for leadership practice?

### ***3.33 The Interview Tool and Schedule***

Interviewing was the preferred research method for this study. Interviews are a flexible tool that elicits responses about the topic through the interaction between interviewer and interviewee. It is the choice of research tool for those motivated by an interest in the other's lived experience (Seidman, 2013). The interview process explores the individual's experience, story, and meaning making. The dialogue is owned by the participants, provides access to multiple realities, and expands the study's scope (Denscombe, 2014; Kvale, 2008; Mc Namara et al., 2008). As Cohen et al. (2001) rightly emphasise, "the interview is not simply concerned with collecting data about life;

it is part of life itself, its human embeddedness is inescapable” (p. 267). Human interaction is central to knowledge production. Interviews can be said to provide “access to what is inside a person’s head, (it) makes it possible to measure what a person knows (knowledge or information), what a person likes or dislikes (values and preferences), and what a person thinks (attitudes and beliefs)”. (Cohen et al (2001) p.267)

Other options that were explored were quantitative methods, such as questionnaires, and qualitative ones, like narrative and observational approaches, such as shadowing and observing several heads of schools during their work. The quantitative questionnaire idea was discarded, as the scope of this study was an in-depth exploration of headteachers. A questionnaire acquires specific information requested by the researcher and limits the area of focus. My preference for the interview method was made with two crucial aspects in mind. Firstly, it presented an opportunity for me to obtain an in-depth snapshot at a particular moment in time of how heads of schools saw digital tools through their eyes. Secondly, as Malta is a small island state, it was practical to interview all the heads within the middle and secondary sector.

Participant and structured observation techniques were also considered. They would have meant seeing the heads in a particular setting at a specific time or day. The heads’ behaviour would have been observed within the school setting, which would have been structured around using technological tools throughout the day. Further to this, diary methods were also considered. Headteachers could record their feelings, contacts, and activity or experience with technology and school leadership. However, these methods were considered to be invasive and time-consuming. Heads of schools already had

highly demanding jobs, and both options could have potentially reduced their participation in the interview process.

Five key areas were included in the interviews (Appendix 2). Section 1 focused on personal characteristics covering essentials, such as age, gender, years in a school headship position, and academic background. Section 2 focused on school information and statistics, which asked for data about students, educators, and other employees. These initial sections contained closed items and gave basic information about the interviewee and their leading school. They were also intended as an initial point of contact to start a discussion. The other three sections focused on the duties and responsibilities as head of school, personal competencies, perception of technology and how heads use digital tools in their professional role and the school they are leading.

Section 3 allowed heads to elaborate on their competencies and feelings about school. The aim was to put interviewees at ease and permit them to talk about their roles, tasks, and vision for their school. I hoped that they would cover themes in which they felt grounded and knowledgeable, and which provided them with a positive sense of ownership before moving to more potentially challenging sections. Sections 4 and 5 expanded on the technological aspects under research. Section 4 addressed personal views on technology, and the level of knowledge or expertise heads believed they had. Section 5 addressed digital tools within schools, from leadership to learning use. Here, all the questions were sections adopted open-ended ones to leave the interviewee at liberty to describe and express their opinions and views. Table 3.1 below explains the

relationships of themes with the research questions. The columns show the section title, the type of questions and focus area, and the research questions linked to this study.

**Table 3.1**

*Interview Schedule Design*

Theme	Question Type	Questions Addressed	Research Question
1. <i>General background</i>	Close-ended questions	<ul style="list-style-type: none"> <li>• Personal demographic information</li> <li>• Academic background</li> <li>• Professional background</li> </ul>	Who are the school leaders, and what school do they lead?
2. <i>School information and statistics</i>	Close-ended and open-ended questions	<ul style="list-style-type: none"> <li>• General information about the school, including student population, educational and administrative personnel population, and a brief overview</li> </ul>	Who are the school leaders, and what school do they lead?
3. <i>Duties as head of school</i>	Open-ended questions	<ul style="list-style-type: none"> <li>• Information about school leadership roles and tasks</li> <li>• The time spent daily on specific tasks</li> </ul>	Who are the school leaders, and what do they do?
4. <i>Personal perceptions of technology competencies, knowledge and skills</i>	Open-ended questions	<ul style="list-style-type: none"> <li>• Identifying their working definition of technology</li> <li>• Identifying personal proficiency</li> <li>• Exploring individual confidence level with technology in everyday life</li> <li>• Individual attitude and perception of technology for leadership purposes</li> </ul>	What are school leaders' personal experiences, attitudes, and perceptions towards technology?
5. <i>Personal technology use in school</i>	Open-ended questions	<ul style="list-style-type: none"> <li>• To explore how leadership has changed by using technology.</li> <li>• To identify whether and how technology makes leadership roles and tasks easier/ harder.</li> </ul>	How is technology used for school leadership, and what resultant changes do they report?



		<ul style="list-style-type: none"> <li>• To identify technology use for leadership practices in and outside of school.</li> <li>• What opportunities/ constraints do they see in their future?</li> </ul>	What do school leaders see and report as difficulties/ opportunities in using technology for leadership practice?
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As Brundrett and Rhodes (2014) emphasise, “structuring your questions to your main aims has many benefits as it makes subsequent data presentation and analysis simpler and helps give structural integrity to the final report” (p. 84). Questions were often open-ended as they allowed participants to take the lead in presenting views on the themes. They also provided sufficient flexibility to questions by being prompt and elaborating on statements.

### ***3.34 Piloting the Interview Tool***

The piloting of the interview was conducted with two other SMT members who were heads of schools working in the post-secondary sector and had previously been heads in the secondary sector for over three years. As they worked in the post-secondary sector, they were exempt from the actual cohort being interviewed. When initially contacting them about partaking in an interview, their first responses were feelings of incompetence regarding the topic. Despite these feelings, both gave their consent. This made me aware of the need to put the interviewees at ease. Although not an invasive or personal topic, digital tools and leadership still create a sense of unease in school heads.

Another key learning point that arose in the pilot study was that providing the respondents with the interview guide just before the start of the interview created confusion and a sense of feeling overwhelmed. The interviewees needed more time to read and answer the questions throughout the pilot interview. They took longer than expected to answer, as they needed more time to think and reflect on the questions. Their responses also included extensive jumping from one topic to another, from one question to another. Not having the interview guide with the questions and sections earlier with time to review the questions being asked could have created this confusion in their minds.

These observations made me aware of the need to reduce interviewee anxiety. Aside from establishing personal, direct contact for the actual interview, I provided the interview questions well in advance of the interview. By providing the heads with the interview guide, I reassured them and helped reduce the defensive wall they could build from feeling judged on their digital knowledge rather than their leadership skills and abilities. They could have felt that their potential lack of digital skills made them incapable of fulfilling their leadership role proficiently. As this was not the study's scope, this fear needed to be reduced to avoid it blocking them from talking about their expertise. Another critical aspect was that giving interviewees more time to think about their responses would help improve the interview quality by obtaining straightforward and sincere answers.

The analysis and discussions of the pilot interviews provided feedback on language. I noted the importance of language use in the prepared prompts, probes, and subsidiary

questions to support the discussion. The first important aspect was which language to use since Malta has two official languages, namely English and Maltese. Both languages are spoken and studied throughout compulsory education, with most written texts and assignments being written in English. With this in mind, the documentation sent to interviewees was written in English. However, the interview questions and probes were also translated into Maltese for ease of reference during the interview. This language preparation was intended to facilitate the automatic ongoing language code-switching adopted by most Maltese in daily conversation.

The second critical development related to the addition of probing questions and prompts. As Descombe (2003) outlines, the process of questioning needs to link prompts and probes to obtain further details from interviewee responses. The main questions were open-ended and invited the respondent to reflect and respond at length. However, probes and prompts were prepared to follow-up questions to explore issues in further detail. These prompts were used as required and were utilised mainly to facilitate the ongoing conversation between the researcher and interviewee.

### **3.3 Conducting the Study**

The procedure for conducting the research and finalising the interview questionnaire was set up following the pilot study. Since I felt the need to establish contact and reassure the participants, the college principals/heads of college network were approached and informed that about the aims of the study before the actual interview. The college principals are leaders of a group of schools at the primary, middle, and secondary levels

who coordinate and improve collaboration between the schools. During the monthly council of heads meeting, a formal request was sent to meet them and school heads (Appendix 1). This meeting, held on a monthly/six-week basis, is when all school heads within a college meet to discuss, collaborate, and cooperate on issues and situations concerning their schools. As outlined in the initial email, this meeting was intended to connect with the heads, outline my study, and ask them to sign the consent form if interested. Consent was obtained from all the principals who willingly supported my request. Five college principals set a time for my intervention before or during the network meetings. This meant that this cohort of heads met me before the interview day. Although expressing interest in my study, other principals asked me to contact the head to set an appointment directly via email and telephone conversation.

Emails and phone calls were exchanged with all heads to set up and confirm the appropriate date and time for the interview sessions. The interviews were held over six weeks in February and March 2018, with some being held during school time and most after school hours. A documentation pack (Appendix 1) was sent, which included:

- A consent form.
- A document outlining the procedures for the organisation of the interview, recording, confidentiality, and right of refusal.
- An outline of the sections which were to be addressed in the interview.
- A list of the questions to be asked.

This pack was intended to help the interviewee overcome any anxiety about the interview whilst understanding the questions' outline and focus.

On the interview day, I arrived early to observe the school environment. Upon entry, I could see numerous technological tools such as CCTV, electric bells, hall monitors, and computers at the reception desks. Colourful motivational posters or school mission statements usually adorned the foyers. I also observed the notice boards or hall monitors, which indicated the school's focus. Displays covered school procedures, activities, and student work. Once called into the head's office, intuitively, my eye fell on the numerous technological tools on the head's desk or placed around the office. Although these observations were not explicitly included as part of the study, my observations sometimes led me to ask questions later in the interview. One instance was when the school head explained school activities, including a European project. Since I had happened to observe some artwork that referred to this project, I nodded and commented that I had noticed this when the head mentioned this. The head seemed to gain more confidence and elaborated more on the various projects carried out in the school, which otherwise I would not have been aware of and which were helpful as some were about digital tools used in the classroom.

Upon entry into the heads' offices, I did my best to establish a rapport through positive comments and observations about the school. I had already met many heads before through work collaboration and meetings and communicated with them via phone or email. I was aware that my relationship with them was now that of the interviewer, and the initial contact needed to be positive, friendly, and in a manner which put them at ease. Once we settled down, I initiated the interview procedure by outlining the scope of the research and the procedures to be followed. Participants were also informed that if at any time they needed to suspend the interview, they just had to say the word. I set up the

recording devices and explained that these would be wiped following the research completion.

As the interviewer, I proceeded to initiate the interview process. I was very aware that I had to be a sensitive listener in my role whilst being critical and vigilant for terminology used, inconsistencies, and possible body language prompts (Briggs et al., 2012; Kvale, 2008). I also had to remember what had already been said when I moved from one part of the interview to another as respondents inadvertently answered the questions I had expected to ask in other sections. To confirm that the questions were addressed, I still read out the question and let the interviewee confirm that they had already answered. At the end of the session, all interviewees were thanked profusely for their time and informed that they would be receiving a soft copy of the study once the research was completed.

**Table 3.2**

*Time frame for the interview process*

<b>Time Frame</b>	<b>Task</b>
March/June 2014	Exploration of the relevance of the study. Interviewed: <ul style="list-style-type: none"> <li>• Director of quality assurance</li> <li>• Head of school</li> <li>• Assistant head of school</li> </ul>
October 2017	Department of Education, Malta – Reconfirmation of research to be conducted in schools
October 2017	Pilot study with: <ul style="list-style-type: none"> <li>• Heads of schools (post-secondary)</li> </ul>

November/December 2017	<p>Contacted college principals:</p> <ul style="list-style-type: none"> <li>• to inform them about the study</li> <li>• to meet heads of schools at college of heads meeting</li> <li>• to get confirmation re contacting Heads</li> </ul>
December/January 2018	<p>Individually contacted heads of schools to inform them about the research area and set up a date for the interview.</p> <ul style="list-style-type: none"> <li>• Via college of head’s meetings</li> <li>• Via phone and email</li> </ul>
February–March 2018	<p>A week before each interview, an appointment reminder was sent to each head with the documentation pack.</p> <ul style="list-style-type: none"> <li>• Interview dates from 14<sup>th</sup> February to 27<sup>th</sup> March</li> </ul>

### **3.4 Ethical Considerations**

Ethical considerations play an essential role in research. Ethics have traditionally been discussed in the context of anonymity and confidentiality, both of which are addressed in my study. I ensured confidentiality by not making my interview data available to other people, protecting my data carefully through password protection, and keeping any contact details on a different computer than the one used for data analysis. No one asked me about what was discussed in other interviews, and I would not have broken confidentiality and told them. Anonymity was ensured by not using the names of headteachers and not linking any headteacher to a particular context. This is important in a small educational system like in Malta, where it is very easy to identify and pinpoint possible respondents. One just needs to see the limited pool of potential interviewees in state schools (21) and the number interviewed (18). Thus, great care was taken when carrying out data analysis to provide the information without linking this directly to a particular school.

The research study was conducted with consenting adults, and there were no unexpected or special issues that arose during the data collection. All participants were asked to give their consent, and only those who accepted were included in the study. In some studies, particularly in education, researchers feel an ethical obligation for their research to make a difference in improving education. Since this was my aim too, I presented the findings at the headteachers' meetings and tried to highlight things that can be done to improve e-leadership in school.

### **3.5 Participants**

The research participants were heads who worked within the middle, secondary, and comprehensive secondary schools in state schools. Heads of middle schools are responsible for students in Grades 7 and 8, whilst secondary level covers Grades 9 to 11. The key difference between these two sections is that students specialise in specific subjects of their choice at the secondary level. Integrated secondary schools are those schools that include all the years, namely from Grades 7 to 11. There are two such government schools, which are included in this study. Throughout Grades 9 to 11, students' study to obtain their SEC levels, which are the Maltese standardised exams set by the University of Malta and held at the end of compulsory education.

The study covered heads in state schools as the setup in church and independent schools was slightly different. Church and independent schools tend to provide for Grades 7 to 11, whereas only two state schools out of 21 included Years 7–11. There was also diversity regarding digital tools in church and independent schools as they adopted diverse school management and learning platforms to those found in state schools. Each



school had its own platforms and policies, which were at times distinct from each other. This would have meant that exploring the different systems, software, settings, and policies in these schools would have deviated my focus from e-leadership. It was necessary to research one standardised system to focus the study, as otherwise, comparing the available tools might have taken up disproportionate time. Thus, state heads of schools were selected as participants since they had very similar technological and digital tools in their schools, provided through government tenders and agencies.

Another reason for focusing on secondary schools was consistency in training and tasks. Heads in schools of Grades 7–11 had numerous organisational tasks related to timetabling and teacher replacement, requiring extensive digital tool use. The SIS department organises numerous annual courses for school heads in this sector addressing such tasks. Another issue was that more training initiatives seemed to occur in the primary school sector, urging teaching staff to adopt learning platforms and use other educational digital tools for teaching and learning, as in the project tablets for all students.

By focusing on this cohort of participants, I could explore school leadership and e-leadership. Since being promoted to assistant head of school, my observations were that digital tools added another layer of competencies and tasks yet could also facilitate leadership, especially in large schools. Through access to immediate communication tools, I was interested in exploring how technology influenced the heads' roles and tasks, vision creation, decision-making, and management changes for school improvement.

### ***3.51 Who are the Maltese Heads of Schools?***

The head of school's job description is an extensive one that includes all the various roles and tasks addressing school management, administration, and leadership. As indicated in Chapter 1, these include organising the schooling day through activities such as timetabling, maintaining school finances, carrying out instructional and curricular roles, and student pastoral care. One generic task included in the job description related to ICT: "In the carrying out of his/her duties and functions, a head of school shall be expected to develop the necessary knowledge, competencies, and skills to be able to make effective use of Information and Communication Technology.

(Department of Education, Head of School Job Description, 2018)

This implies that headteachers are expected to utilise aspects of technology to conduct their daily work. However, these duties and required skills were left vague so that each individual develops them independently, according to their needs. This study indicates that all school heads followed digital training for their administrative and managerial duties by SIS and did their utmost to keep these skills updated.

### ***3.52 Participant Information***

#### **Personal Participant Characteristics**

The data included in this section was obtained from Sections 1 and 2 of the interviews, covering basic personal and role-related details and data on the schools that the heads were responsible for. There were 21 eligible heads of state schools on the Maltese islands, of which 18 heads agreed to participate, 2 refused on initial contact, and another

withdrew due to personal issues. Although this might seem like a small number, 21 is the entire population of government school heads in this sector.

**Table 3.3**

*Schools and Heads Interviewed*

School	Grades	Total Number (n) = 18
Middle School	7–8	6
Secondary School	9–11	10
Integrated	7–11	2

All the interviewed heads had educational and management qualifications. One is not considered eligible to apply for the post of head of school if the applicant does not hold an educational leadership qualification at Level 7. As indicated in Table 3.4 below, most had the Postgraduate Diploma in Educational Leadership, superseded by the Master’s in Educational Leadership in recent years. One head of school held the Postgraduate Diploma in Educational Administration and Management, which was offered before the nomenclature change.

**Table 3.4**

*Qualifications of Heads of Schools*

Qualification	Total Number (n) = 18
Postgraduate Diploma in Educational Administration and Management	1
Postgraduate Diploma in Educational Leadership	10
Master’s in educational leadership	7

Most headteachers were promoted to their post between 1–7 years earlier, with the longest-serving head holding the post for 13 years. There was a balance between sexes,

with 10 females and 8 males. Had all the heads participated, this would have resulted in 11 female heads of schools and 10 males resulting in comparable gender participation. The ages of the heads ranged from 40 to 60 years, with the average age being 49 years.

### **Maltese Schools**

Heads of schools in Malta are responsible for a large number of individuals at any one time on school premises. The schools' student population in this study ranged from 307 to 800 students. The number of educational personnel in these schools, including SMTs, teachers, and learning support educators, ranged from 71 to 200 employees. As can be imagined, the larger the student population, the more educational personnel one finds. Accordingly, Table 3.5 below indicates the schools' population where one can observe that heads of schools can be responsible for 378 to 1000 individuals daily within the school premises. Excluded from these numbers are the school secretarial and clerical staff and technicians, maintenance, and cleaning personnel. These were not included as numbers are variable. For example, more maintenance personnel could be on-site if extensive structural work was being carried out, and private contractors were responsible for cleaning and hygiene of some schools and not others. Stakeholders such as guardians, external educators, support services from the Department of Education or external entities are not included in these numbers despite heads frequently interacting with them on various matters.

**Table 3.5***Numbers of students and educators in the schools*

	<b>Population</b>	<b>Schools (n = 18)</b>
<b>Student Population</b>	1–400	6
	401–600	7
	601–800	5
<b>Educator Population</b>	70–100	4
	101–130	7
	131 and over	7

### 3.6 Data Analysis

Following the interviews, the next step was to organise and structure the interviews into precise, consistent data for analysis. This process was lengthy as it required transcriptions, identifying the different codes, grouping them, and organising them into themes. Table 3.6 below outlines the process.

**Table 3.6***Phases in the Data Analysis Process*

<b>Phase</b>	<b>Key tasks</b>
Transcription	<ul style="list-style-type: none"> <li>• Translation from Maltese to English</li> <li>• Interview write up</li> </ul>
Codes	<ul style="list-style-type: none"> <li>• Organisation into an excel sheet               <ul style="list-style-type: none"> <li>○ Step 1: Initial open coding of all the interviews</li> <li>○ Step 2: Reduced to generic codes through overlap and aggregation</li> <li>○ Step 3: Organised into themes</li> <li>○ Step 4: Organised into categories</li> </ul> </li> </ul>

Categories	<ul style="list-style-type: none"> <li>• Structuring into three main areas <ul style="list-style-type: none"> <li>○ Technological attitudes, competencies, qualifications, and uses</li> <li>○ School management and leadership</li> <li>○ Heads and digital tools</li> </ul> </li> </ul>
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### ***3.61 Transcription***

The first step of any qualitative study is transcription, an inevitable yet problematic step in analysing the spoken word. No transcription/translation system can provide the researcher with a complete and comprehensive interview narrative. Researchers emphasised that transcribing and analysing the text should be done by one person to fully understand the data (Kowal et al., 2014); hence, I decided to transcribe all the interviews manually. This process helped me better immerse myself into the diverse world of the heads of schools.

Each interview was recorded on two devices to ensure that if one device failed, there was a backup. This proved to be a great support as if some of the words were faint on one device, the backup helped clarify what was said. The transcripts for each interview included all the verbal interactions and interruptions which occurred throughout the interview. Interruptions usually lasted only a few minutes and were related to students or staff requesting some information from the school head. There were very few phone call interruptions. One transcript example can be found in Appendix 4.

A vital aspect of the transcriptions was language. As indicated earlier, Maltese and English are our two national languages, and one usually switches automatically between them. Commonly, lectures or lessons are delivered in Maltese, whilst the books and

terminology are in English. As already described, I preferred to let the interviewees express themselves in the way they felt comfortable. All the interviews were initially written verbatim in Maltese/English and subsequently translated to English for transcribing purposes. It followed that all coding was carried out in English. Maltese phrases and words were translated to the closest meaning in English. Similar expressions were identified when these could not be translated literally. Support was also received from some Maltese language teachers at times. All the steps possible were taken to conduct the transcription with a very critical eye and ear to reduce various biases. Whilst transcribing, I could occasionally observe code-switching between English and Maltese. This was observed to be automatic and relatively frequent for all those interviewed. Most of the time, the English words were technical terms like ‘attendance’, ‘Learning Support Zone’, ‘tender’, and ‘technology’. Although different words exist in Maltese, it is the English word mainly utilised in everyday discourse. An example of this transcription and code-switching is seen in the excerpt below. The head was elaborating on the various tasks, which took ample time.

Researcher: *Bejn wiehed u iehor kemm tiehu hin fil-gimgha fuq certu tasks and duties?*

How much time do you dedicate in a week to specific tasks and duties?

Head of school: *Sfortunatament qisu 50% tal-gimgha jittiehdu min tasks li m'ghandhom x'jaqsmu xejn hafna drabi mar- 'role' propju taghna, igifieri dak li ahna curriculum leaders.*

Unfortunately, over 50% of the week is taken up by tasks that are not directly related to our specific role, namely curriculum leaders.

### ***3.62 Coding, Condensing of Codes, and Classification of Data***

Once the transcripts were re-read and reviewed, I initiated the process of coding and organising the data into themes to develop a framework for the study. This first step helped me organise the extensive datasets into more manageable units of meaning. Each interview was read numerous times to ensure that key phrases, words, and statements had covered all the emerging points. By initially underlining these statements and then colour coding, it was ensured that all emerging meanings associated with the interview text were covered. Once this process was finalised for each interview, I went through the interviews again, identifying loose coding patterns, often called a process of open coding (Insch et al., 1997).

The list of open codes was organised into an Excel sheet, where between 150–200 codes were generated from each interview. This was unmanageable and consistent with other coding guides. I reduced the open codes, first, by looking for overlap, i.e., two or more open codes were repeated or closely related and, second, by aggregating, where possible, codes into more abstract labels. In this way, I reduced the codes to around 75. Moreover, I could group codes into around 30–40 themes, as illustrated in Table 3.7 below.



**Table 3.7**

*Example of the qualitative process*

<p><b>Step 1</b> <b>Read the verbatim transcript</b></p>	<p><b>Step 2</b> <b>Open coding of units of meaning</b></p>	<p><b>Step 3</b> <b>Reducing open codes</b></p>	<p><b>Step 4</b> <b>Themes and final code labels</b></p>
<p>I stay as far away from it as possible. Technology for me means what works. In what I need, I excel. Not because I enjoy it but because I have no choice. I don't enjoy new technology or updating just for the sake of it.</p>	<ul style="list-style-type: none"> <li>• Stay as far away as possible</li> <li>• What works</li> <li>• No choice</li> <li>• Updating just for the sake of it</li> </ul>	<ul style="list-style-type: none"> <li>• Stay far away</li> <li>• What works</li> <li>• Use it when needed</li> <li>• Use what is already there</li> </ul>	<p><i>Attitude towards technology</i></p> <p><b>Pragmatic</b></p>
<p>Comfortable with technology. Not savvy like my kids All that will help me with my work, not only communicate. I cannot survive without my laptop. If I need something, I google search and find it. I use technology where I can understand. I use the basics well. Use all the gadgets I can use.</p>	<ul style="list-style-type: none"> <li>• Comfortable</li> <li>• Not savvy</li> <li>• What helps with my work</li> <li>• Understanding</li> <li>• Cannot survive without a laptop</li> <li>• Use all gadgets</li> <li>• Google Search</li> <li>• Basics well</li> </ul>	<ul style="list-style-type: none"> <li>• Comfortable</li> <li>• What I understand</li> <li>• What helps with my work</li> <li>• Use basics well</li> <li>• Use gadgets</li> </ul>	<p><i>Attitude towards technology</i></p> <p><b>Curious</b></p>
<p>A lot of time is wasted on these processes within the school. The value of attendance as in the past is no longer valid. The QR codes intrigued me. These are all links. All you need is to click on the suggestion box, and it will direct you automatically there, and I will immediately receive the suggestions there. So, they have immediate answers to most of the work.</p>	<ul style="list-style-type: none"> <li>• Time wasted on processes like attendance</li> <li>• Intrigued</li> <li>• Click on a button</li> <li>• Directed automatic</li> <li>• Immediate</li> <li>• Mobile</li> </ul>	<ul style="list-style-type: none"> <li>• Created</li> <li>• Solutions to processes</li> <li>• Intrigued</li> </ul>	<p><i>Attitude towards technology</i></p> <p><b>Innovator</b></p>

<p>When a teacher has the mobile constantly at hand...they click on the link as they have saved it on the mobile, and he has been directed there immediately, completed it, and sent. I created my own programme. I started with that; I have my own excel sheets</p>	<ul style="list-style-type: none"> <li>• Created own programme</li> <li>• Created own excel sheets</li> </ul>		
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In this case, I provided a portrait of three types of attitudes towards technology when writing up the findings. Table 3.8 indicates these attitudes.

**Table 3.8**

*Generating of Definition of Attitude towards Technology*

<p>Innovator</p>	<p>Technology is well integrated into every aspect of their life. They find solutions to various aspects of their work through technology. They have very positive feelings towards all aspects of technology.</p>
<p>Curious</p>	<p>Use technology in their daily life and for work purposes. They see technology as an essential part of their work life and are comfortable using it in their daily life.</p>
<p>Functional</p>	<p>Uses technology just for work purposes with a pragmatic attitude in that they use technology that works to achieve tasks. In their personal life, the very basics of technology are used. Their feelings towards technology are generally negative.</p>

The process resulted in a workable coding frame that could be applied to the transcripts.

The whole process was very time consuming, and I often doubted whether I was reducing in the right or wrong way and which code belonged were. Themes and codes were re-assessed numerous times to deepen my understanding of the topic (Appendix 5 outlines the open codes). However, I became more confident with time and getting to

know each transcript inside out. I compared the decisions with my supervisor and reached a high level of agreement. I also described my problems with colleagues at work, who helped me gain confidence that I followed justifiable procedures. This shows that data analysis is an iterative and persistent process occurring throughout the research project. It involves studying and identifying a particular phenomenon to provide a more precise understanding (Denscombe, 2014). I searched for understanding, interpretations, values, and emotional experiences in daily contexts. The final coding framework was relatively easy to apply as, by now, I knew all the transcripts and felt more confident. As a final step in organising the report, I was able to group themes into three categories:

1. Technological attitudes, competencies, qualifications and uses
2. School management and leadership
3. Heads of schools and digital tools

These were used to provide the framework for the next chapter, the report on the findings.

### ***3.63 Data Presentation***

In writing about the themes and codes, I used tables as a framework; for example, Table 3.9 covers the themes and codes related to headship visions. Column 1 shows three themes, and column 2 shows eight codes. Column 3 gives the total number of transcripts in which one or more codes were applied. In this case, all the heads mentioned that they were proud of their school. I could have added the frequency with which each code was applied, i.e., if the same codes were used more than once in a single transcript, but I wanted to focus on the spread of attitude or agreement across the 18 heads. Once I had

the tables and had an in-depth knowledge of each transcript, I wrote an account, drawing attention to the general picture and pulling out the nuances and counterexamples.

**Table 3.9**

*Example Theme – School Vision*

<b>Themes</b>	<b>Codes</b>	<b>Numbers</b>
School Climate	• Proud of school	18
	• Ownership	18
School Ethos	• Well-being	18
	• Raising standards, progress and success	12
	• Better future citizens	10
School Improvement	• Ongoing school improvement	18
	• Planning for policy change	15
	• Balance vs instability	4

### **3.64 Quantifying Data**

The importance of number, i.e., the number of heads who mentioned a particular theme, was also considered. I was interested in substantiating the topics that indicated a pattern’s prominence and helped to show its relative importance (Bachiochi & Weiner, 2002). However, a simple approach could simplify and possibly devalue more vivid details. Interpreting data is not a number game, and there were occasions when only one or two heads referred to a reality, situation, or context, which nonetheless shed light on a general issue. For example, one head raised the issue regarding the forwarding of emails and how this was being used as a form of pressure: “You get copied to the director so that further pressure is put on you...and you have to give in.” The crucial point here is

that while only one head expressed this experience, it spoke to the constant power and surveillance issue that all heads experience to greater or fewer degrees.

In writing about the data, I took care not to simply repeat what was in the table. I tried to draw attention to what was important and included quotes to illustrate the themes.

Rather than repeat numbers, I used quantifiers in plain English as set out in the table below.

**Table 3.10:**

*Quantifying of Qualitative Data*

<b>Quantity and Frequency Words</b>	<b>Number of Respondents</b>	<b>Percentage (%)</b>
<b>Measurement Words</b>		
None, never	0	0
Rare, sporadic, scarce, few	1–4	<22
Some, sometimes, more or less, now and then, little, here and there	5–8	23–49
Many, numerous, various, several	9–12	50–66
Frequent, regular, most common, important	13–16	67–87
Nearly all, everyone, everybody, all	16–18	88–100

### **3.7 Validity, Reliability, and Generalisability**

Clarifying decisions and assessing the authenticity of any study are essential; hence, I did my utmost to critically take the decisions which would make my study credible, trustworthy, and authentic (Creswell & Miller, 2000). In qualitative research, trustworthiness is emphasised as a criterion for the integrity of a study’s interpretation and the credibility of results (Hartas, 2010). In this context, validity, reliability, and

generalisability are targeted more toward positivist research and, therefore, are less valued for trustworthiness in this study. Above I outlined two of the main processes for articulating the study's themes and provided a trail, discussed with my supervisor, which was lengthy and required numerous phases to ensure reliability and transparency.

In qualitative research and analysis, the issue of subjectivity is seen as an inevitable part of the process, which can be mitigated through transparent reporting. The interviewer can directly influence the research process through physical presence and body language (Cohen et al., 2017). As the researcher, I was concerned with this issue and did my utmost to maintain a consistent pattern throughout the interview, transcribing, and data analysis. Consistency throughout the interview was challenging to maintain at times. The questions in the interview schedule were always covered; however, questions were not always carried out in the scripted order. Where the conversation was flowing more naturally, I preferred listening to the participant and used prompts and questions to re-direct them later on. I allowed each participant to respond freely whilst shaping the conversation as I believed that each interview could provide individual responses. I wanted the participants to lead the interview, as they were very enthusiastic and were intent on exploring all the digital tools and the different policies and methods they were utilising for their schooling and leadership practices.

I was very aware of bias in the research process. Bias could arise from various factors, the interviewer, the respondent, and the questions' content (Cohen et al., 2017). As the interviewer, I did my utmost to put any personal beliefs about digital tools in the background. When hearing opposing views or rationales for technology, I was curious

and genuinely sought to prompt the interviewee so that I could learn more. Perhaps my bias reflected my degree of curiosity more than my alignment with technology.

### **3.8 Summary**

This chapter outlined the methodology for this study, describing a critically reflective process from my first interest to developing more concise research questions. The pilot study helped clarify the research questions, thus identifying the research method and constructing the research tool. The interview tool was developed to address these questions and take a snapshot of the heads' perceptions and use of technology in their professional and daily lives. The pilot study enabled me to reduce interviewee anxiety and improve the transition process whilst gaining more in-depth information for my study.

Following the interviews, the process of transcribing, coding, and classifying data obtained was outlined. This covered the trial from open codes to aggregated codes and codes organised around themes and categories. The use of tables enabled a framing of narrative accounts. Each step was taken to contribute toward a relevant and trustworthy process and intended to provide a trustworthy account.

## CHAPTER 4: FINDINGS

### 4.0 Introduction

This chapter reports the interview data and is subdivided into three key sections.

**Section 1** – Heads’ attitudes, technology competencies, qualifications, and uses. Here, school leaders’ technological qualifications, competencies, and tools used for their work and daily lives are addressed, especially regarding the Department of Education training. Their attitude towards technology is presented.

**Section 2** – Heads’ roles, tasks, and vision. A detailed outline of the heads’ administrative and managerial skills, tasks, leadership values, and vision is developed.

**Section 3** – Heads and technology. Throughout this section, the heads’ use of digital tools for heads management and leadership is outlined, with digital well-being issues arising from work intensification being addressed.

### 4.1 Technological Attitudes, Competencies, Qualifications, and Uses

Within this section, the key themes refer to technological training, competencies, and attitudes toward technology in heads’ daily and professional lives. Headteachers’ formal qualifications and digital competencies will initially be described, followed by an overview of how digital tools have permeated their lives. In Appendix 6, the five coding tables related to this section can be found.



## ***4.11 Training in Digital Tools/Information and Communications***

### ***Technology***

As seen from Table 4.1 in the appendix 4, just under half of the heads attended ECDL courses, with some mentioning they had attended the initial courses offered by the department way back when ICT and the use of laptops were being officially rolled out to educators. “I did the ECDL when I was a teacher in 2003” (Headteacher 15). Around a quarter had both ECDL and further training in computer and digital-related tools. These ranged from Advanced ECDL to Ordinary Level in Computer Studies to Diplomas in IT or computer studies. It is interesting to note a gender balance between headteachers regarding their digital competencies and qualifications, with a female headteacher having the highest qualifications in terms of computing knowledge.

All heads had attended SIS courses as required in line with their roles and tasks. Such courses address essential technological and administrative tools for heads as they fall within their remit of roles and responsibilities, including the school management system, management of finances, and communication systems with stakeholders. Other courses address software and digital tools required for headship tasks, such as timetable, resource allocation (e.g., rooms), and classification, covering school organisational requirements regarding educational personnel and infrastructure resources.

All heads mentioned attending training in three key areas – timetabling, classification (for identifying educational personnel required for any scholastic year) and e1 financing (the financial system utilised for running schools). Even though a few heads might not

have taken up the hands-on work for one or another of these areas, they still attended update sessions. There seemed to be more female headteachers who delegated technological administration roles such as timetabling; however, the numbers were very small (2 female heads). Age also had a minimal impact on the delegation of such tasks, even though it was expected that the elder participants tended to delegate such tasks occasionally.

Other innovative programs introduced prior to these interviews, such as staff cover (the digital planning software used to replace missing teachers), were not always attended by heads but rather delegated to the individual responsible for the administrative task. As one headteacher stated, “I know about staff cover, and it’s used in school; however, I am not sure how to operate it. I send on training that person who ultimately will be making use of the programme” (Headteacher 13).

#### ***4.12 Use of Digital Tools in their Daily Lives***

Table 4.2 in appendix 4, addresses the personal use of digital tools by heads of schools. All the heads use digital tools daily, with smartphones and laptops being the most prominent tools, with other digital tools including smart TVs, work laptops, and tablets. When elaborating on the areas for using these tools, they were grouped into information and surveillance, socialisation, leisure, production, and consumption.

Everyone used digital tools for consumption, ranging from e-banking to online shopping to purchasing flights and travel services. Female headteachers mentioned this more

frequently than their male counterparts. They were responsible for family and personal financial management and were the ones who were more likely to purchase flights, tickets, and clothes. Accessing information was the second-highest personal use, ranging from keeping updated with current events to following documentaries on YouTube and searching for recipes. “Basically, I enjoy listening to music, so I use YouTube a lot, and it keeps me sane. I enjoy watching documentaries, reading newspapers online. I also have a personal Facebook page” (Headteacher 6). Interestingly, only some heads used popular digital tools such as Facebook and WhatsApp to socialise in their daily lives. Male headteachers preferred not to have a social media presence or use it. Leisure uses of tools mainly included smart TV and playing the occasional game on their mobile; however, they emphasised that they were not gamers: “When I play, it’s like solitaire whilst waiting at the dentist” (Headteacher 17). Production was also referred to, especially photographic software, such as Photoshop.

#### ***4.13 Attitude towards Digital Training and Tools***

Heads all felt that digital tools for functional tasks were essential. The systems mentioned were related to school and administration, especially timetabling, school class listing, etc. Their attitude toward technology was positive, and they were thankful that digital tools were in place to support them in their organisation. The general feeling expressed by one head but felt by many heads was: “timetables we cannot do without technology. Classification we cannot do without technology. Replacements we cannot do without technology. It’s a plus” (Headteacher 5). One head mentioned that he had “four timetables... which takes a lot of time and planning. And always with my fingers

crossed that I have not made some mistake with some logistical problem... it is very complex” (Headteacher 18). Another head remembered:

doing the timetable manually, it wasn't in my time, but my previous head of school. A huge chart on the table, and he does the timetable. With the sets, the options, and restrictions we have today in the timetable, it would be impossible to do them manually. So, in this respect, technology has helped. (Headteacher 2)

Some of the heads preferred to stay at the *functional* level of technology, with one head commenting: “I stay as far away from it as possible. With our job description, we have to adopt a pragmatic approach. That is, it revolves around what you need and what works for you... Technology for me means what works” (Headteacher 9). Two others outlined the aspect of control, where one elaborated: “Technology is anything which works at the push of a button... once I learn it, then I am not afraid anymore... However, although I use technology, I don't want it to control me”. (Headteacher 17)

Most heads had integrated a different level of technology use within their work lives. A substantial number were *curious* about technology practices. Out of these, some adopted a do-it-yourself attitude and experimented on their own in that they

believe that with technology you can do anything... I believe that any idea that pops up in my mind is a program or app for it... I google search – how do you merge a sheet? How do you...? And answers start cropping up. If there is a YouTube video, you see it a number of times, and that is the training.  
(Headteacher 3)

Others emphasised that they “learnt it by trial and error” (Headteacher 13). Another head highlighted:

I learnt them on my own. I did attend the courses; however, you learn the program once you use it. Especially when you are pressured and need to issue some information the following day. You just have to do it. (Headteacher 8)

Some heads also referred to more competent personnel within the school: “I am curious, and I ask even about a game. I go to the ICT technician, computer studies teachers, or people whom I know are more technology conversant than me”. (Headteacher 2)

Two male heads were observed to be *innovators* and drivers in using technology for schooling purposes. They were utilising embedded systems within their school to reduce paperwork and drawn-out mechanical data processing. These two heads said they were “always interested in technology... my subject background helped me a lot and made me computer literate” (Headteacher 18). Their extensive use of technological practices for administration purposes was seen as essential as a “lot of time is wasted on these processes within the school”. Table 4.3 in appendix 4 outlines the heads’ attitudes towards learning digital tools.

#### ***4.14 Use of Digital Tools in their Professional Lives***

Although some heads might have considered themselves not so technologically apt, all seemed to use several digital tools for their daily work-related tasks or specific tasks tied to their roles. Table 4.4 in appendix 4 addresses the professional use of technology by

heads of schools. As expected, digital tools were mainly utilised for *communication* with stakeholders, with email being mentioned numerous times throughout the interviews. A few heads also mentioned various social media apps such as WhatsApp and Messenger. Most of these heads tended to be female headteachers who used these social media tools to communicate with their staff during and outside of school hours for work or support purposes. One female headteacher commented that “daily I use emails, telephone, mobile, Messenger. Example at the moment I have five members of staff on long sick leave. I send a message to one or another on a daily basis” (Headteacher 1). Facebook was also used to publicise daily events in school whilst maintaining contact with the stakeholders, particularly parents and guardians: “The school Facebook it’s myself and some other teachers. We put up things and activities on our page” (Headteacher 14). YouTube was mentioned as a form of professional tool used during professional development sessions:

I use YouTube a lot to see documentaries. Moreover, for work, when I am preparing a session and need to find a brief motivational speech, it helps set the ground before launching anything. I use this aspect of technology frequently.

(Headteacher 2)

Personal and organisational tools have been grouped under the theme of organisational tools. Some of the tools referred to by a couple of male heads were QR codes. The staff used these mostly for behaviour management, attendance, professional development, or even polling for decision making: “This year seems to be the best year for this QR behaviour code system since its introduction three years ago. There are links to a Google sheet which I then receive for review” (Headteacher 4). For personal organisation, tools

such as Trello or the mobile phone Notes apps were referred to, which are utilised via mobile to help them organise and structure their ideas, thoughts, and observations as they went around their daily work around the school: “Even if I am going around the school, I do a memo and start writing... calendars and everything” (Headteacher 2). However, utilising these particular tools did not seem to be the norm but was more common amongst male heads.

Data collection and analysis tools were also referred to, especially regarding annual internal school reviews. Survey Monkey and Google Forms were mostly mentioned for conducting questionnaires, with the advantage that they provided analysis tools. Two male and one female head mentioned that they used SPSS for data analysis matters. Female headteachers tended to mention and use Google forms and sheets for SMT coordination and organisation more:

Another thing is the shared sheets which are like Excel – we as SMT use them a lot. For example, we communicate as to what we are going to say in assembly. Also, the detention system works that way... The communication with the SMT is mostly through these shared sheets (Headteacher 12).

Other tools were used for safety and security reasons, like CCTV, or communication aspects, like Intercom and communication systems. Solar panels were also mentioned, which, although environmentally friendly, created several additional tasks.

#### ***4.15 Further Professional Training***

When discussing further training opportunities, all heads commented that they disliked attending courses, especially during school hours. One head put it as: “they offer many courses. It’s just that we have so many seminars, meetings etc. that I am frequently out of school. I do trust the assistant heads; however, the running of the school is still on my mind” (Headteacher 16). In addition, a few heads agreed that “every year we have a refresher on e1, a refresher on timetable etc. If you use them regularly, you do not need a refresher. If you do not use them, refresher courses are useless” (Headteacher 14). Some kept attending SIS specialised courses annually as they believe they “had better attend, as they affect my work” (Headteacher 11). Some heads also noted the lack of context in digital tools training courses and felt that what was required was more integrated training within the school. One female headteacher specified that “hands-on training on the school premises: within the reality of the school. That is what I need” (Headteacher 11).

Table 4.5 in appendix 4 outlines the further professional training interests of heads of schools, with suggestions ranging from:

- i. specific organisational and administrative tools such as identifying essential tools and systems to improve managerial processes, for example, apps for management, google forms;
- ii. tools to improve decision-making processes and data analysis; and
- iii. knowledge of new areas such as legal frameworks and aspects of various technology, especially social media.



## **4.2 Heads Management and Leadership**

This section addresses the heads' vision, perceptions, attitudes, and contexts for their schools. The leadership, administration, and management themes are addressed separately yet interlinked throughout.

### ***4.21 Personal View of School Headship***

As Table 4.6 in appendix 4 indicates, all heads emphasised the all-encompassing tasks and responsibilities their roles carry. It was clear that all felt this obligation and took it very seriously. When asked to describe their roles, it was interesting that heads needed some moments to gather their thoughts as so much seemed to be asked of them.

Immediate initial responses focused on rather generic terms like “duties and responsibility are from the beginning to the end” (Headteacher 1), “from A to Z. The buck stops at him” (Headteacher 7), with others seeing it as a “24-hour job” (Headteacher 16) where one “is responsible for everything and everyone from structure to the curriculum” (Headteacher 7). The job’s complexity came across in the following comments: “multitasking of different tasks which are constantly going on” (Headteacher 3) and “the head is not only an educator but also has the role of psychologist, social worker, receptionist...” (Headteacher 7).

Many immediately focused on the frantic daily pace of work: “being a head of school is quite hectic” (Headteacher 13). Some viewed this concept of immediacy in daily actions as “almost daily crisis management because the day-to-day matters happening in school fall in my lap” (Headteacher 5). Another noted that “there are many different things

constantly cropping up, that you sort out one issue and forget another” (Headteacher 18). Headteachers were very aware that dealing with immediate problems was a daily occurrence but did their utmost to plan or structure their day. One head noted, “if you start the day with no plan, then yes, it is crisis management” (Headteacher 9). Another commented:

As a head, one has to be careful as the immediacy issue steals from what is important to a school... we need to plan to give importance to what is our priority. Immediacies will happen, but then we continue with our priority.  
(Headteacher 8)

One head described himself as the “head of school of three different schools – a highly academic school, a vocational school, and a school for social-emotional behavioural difficult children” (Headteacher 6). Those heads who mirrored this view were transitioning from single-gender to co-educational schooling.

#### ***4.22 School Headship Key Tasks and Responsibilities***

The themes identified within this section pertain to the functional and daily aspects of the heads’ tasks and roles. As observed in Table 4.7 in appendix 4, the three key focus areas were administration and processes, people management, and teaching and learning. All heads addressed these primary work areas even though the emphasis was placed more on one area than another, depending on the school context.

## **Organisational Administration**

Heads mostly saw their “main duty being that of the running of the school on a daily basis” (Headteacher 5). Four heads said that they primarily focused on “mainly administrative duties” (Headteacher 17), with another specifying that their “main duties are still management and administration on a daily basis and at certain periods of the year the planning that is classification, timetabling duties” (Headteacher 11).

Certain planning and administrative work were carried out at specific periods during the year, with timetabling and class listings being carried out mainly throughout the summer months. Fifteen heads stated that they were directly responsible for all the timetabling work, namely the inputting, the data and decision making. The other three headteachers were part of the decision-making work yet not responsible for the technological aspect of inputting data. Regarding finances, all said they were responsible for spending the finances and checking budgets; however, the daily input work was carried out directly by the school clerks.

Maintenance of premises seemed to be a point of contention for several heads. Those heads’ working within older buildings or where renovations had or were being carried out spoke quite strongly about the complexity of tasks and time taken up. One head outlined an issue that he had just been tackling that week.

We still have problems with the building, although renovations were done. For example, a teacher informed me that her classroom was flooded. We had already had a roofing issue where I spent quite a substantial amount of money fixing it. I go up on the school roof and discover that there is another shaft that had never

been plastered from when they had built the additions. And I end up spending so much time on maintenance. (Headteacher 10)

Maintenance and cleaning seem to be a headache for heads, “maintenance and cleaners take up a large chunk of my time”, and “the school is physically falling to pieces, and we are trying to make it colourful” (Headteacher 12).

### **Teaching and Learning**

As expected, all heads saw themselves as curriculum and instructional leaders where “teaching and learning are placed at the centre of my role” (Headteacher 16), with “students getting their educational entitlement” (Headteacher 10). For them, this role was carried out in diverse ways, from visiting classes, following newly qualified teachers, discussing with educational staff, and setting professional development training and ongoing development targets for the SDP. This aspect of their role was also discussed extensively in development and change as an area constantly developing.

Another key area elaborated upon by almost all school heads was the pedagogical use of technology for teaching and learning inside the classroom. Most heads mentioned that although technology like the interactive whiteboard was being used, their concern was that “teachers go unprepared believing the interactive whiteboard will do miracles and teach on its own” (Headteacher 11). A few also pointed out how technology was being taken up for teaching: “Every teacher is utilising the interactive whiteboard whether as a projector or as a proper interactive whiteboard” (Headteacher 13).

There also seemed to be a consensus that pedagogic leadership was frequently put aside due to continuously arising immediacy situations: “I am supposed to be working on more curricular aspects. However, this is just 10% of my work” (Headteacher 12). Another head noted a “70–30% split on administration and most of the days even 80–20%” (Headteacher 11). These statements indicate an element of regret felt by the heads, independent of gender and age, as they did not feel sufficient time was being dedicated to what they considered key aspects of the learning community they were leading. The geographical location of the schools, whether located in the Northern or Southern harbour or Gozo, did not make any difference to such feelings. All felt that dealing with immediate challenges was taking over from focusing on instructional leadership.

### **People Management and Well-Being**

A concept referred to by one head as “people-management” (Headteacher 16) surfaced in all the interviews. One head emphasised that “the main and important duties are the children and the school’s customer care” (Headteacher 3), with the customers being the children and their guardians. Others focused on “student well-being, then teacher well-being” (Headteacher 10), with a few others addressing it as “keeping the students’ best interest at heart” (Headteacher 14). One head quantified her daily routine on this aspect by stating that “90% of the time is spent on staff well-being, student well-being, student problems” (Headteacher 1). Many heads commented upon teachers’ well-being, with most seeing teachers as collaborators working to attain the same goals of supporting and enhancing student learning. Overall, heads seemed to give more importance to student well-being as they associated it with social issues and pastoral care needs. Student-focused themes identified in all interviews were those of pastoral care and discipline.

Discipline was referred to in detail by most heads, emphasising that this aspect took up most of their daily work time. Most heads elaborated on the *time required* to address these issues when elaborating on discipline: “Most of my time is on discipline. Conflict between students and teachers and sometimes even staff between themselves”

(Headteacher 12). One head stated that:

Discipline is another issue, and it tires me out. In Grade 8, eight students take up most of my time, along with pastoral care. It’s either I intervene, or teachers get upset because they cannot do any lessons. With these students nothing seems to be working, although we are providing all the services. (Headteacher 10)

An attentive comment by another head addressed the issue that “we need to focus more on those students who are good, motivated, well-behaved genuine students who are passing through our corridors’ and not on the 20 troublesome students” (Headteacher 6).

Discipline in connection with *uniform wear* was referred to sporadically during the interviews. One head outlined how “the headmaster with the HOD’s help go down the rows after each assembly checking that all students are dressed in their uniform, check for make-up, etc.” The underlying reason for this emphasis was that uniforms were essential in certain occupations “...example McDonald’s, no one complains that they wear a uniform” (Headteacher 4). This issue of discipline and behaviour was seen to be *affecting learning* and was more frequently mentioned by headteachers in the Northern and Southern harbour areas. These areas are known for experiencing more profound social and economic challenges even if they have undergone massive regeneration over

the last few years. One head outlined the link between discipline and pastoral care where when talking about her weekend work, she commented that:

The behaviour point system reports are issued once a month, and I want to see these at home so that I understand who these challenging and difficult students are, and the consequences are given. I need to identify these students immediately to see what support they require. (Headteacher 12)

She further elaborated that:

The social background is challenging. We have more severe issues of behaviour than other schools. Out of ten classes, we have two classes who perform well, and I mean very well, academically; however, it can be disappointing from an academic perspective. It's like there is no middle road; there are two extremes which, however, are more balanced towards the lower end. (Headteacher 12)

A few other school heads mirrored this reality of having two or three different schools within one premise.

All heads addressed the various aspects and programs of *pastoral care* within their schools. The context and catchment area of the school were mentioned frequently. Specific regions are renowned for having disproportionate social issues and/or more significant numbers of international students presenting diverse needs. Social issues could range from familial or guardianship disputes to emotional and mental health difficulties. Regarding foreign student intake, although families were settling all over the Maltese islands, certain areas had a higher influx of foreigners due to rental prices and work proximity. These aspects added another layer to the heads' pastoral concerns as

they created diverse and different realities within each school. One headteacher elaborated on one particular incident: “Last week we had an explosion of domestic violence cases. An explosion” (Headteacher 1). Another elaborated, “it is not the only locality; however, it is one of the localities where social problems and issues are concentrated” (Headteacher 2). The catchment area was elaborated upon by another head who commented:

Our catchment area is not an easy one. Children with problems are increasing. If we look at all the children who have problems and act out, we will focus only on that. We try to help them as much as possible when we know. We try to help them... it takes a lot of time on pastoral care. (Headteacher 5)

*Multiculturalism* was another reality faced in many schools, with one head commenting that diversity was an ongoing issue for development within her school. When asked about foreign students attending her school, she added that:

when we are talking about foreigners, we are referring to those with both parents who are non-Maltese – that is 40%. We did not consider those that have one foreign parent. (Headteacher 5)

This diversity was reflected by another head in the Western region, who mentioned that 25% of their student population was non-Maltese speaking:

It’s quite a large number. We have those who are coming up from middle school, so to a certain extent, know about the system; however, we also have many new entrants. As an example, today (March), a new international student started at



school. So, this is something that is ongoing. It presents a huge challenge.

(Headteacher 18)

Another head elaborated that “there are an increasing number of foreigners settling in our school area and the school population is increasing by the minute. The influx is regular. As we have so many foreign students, inclusion and diversity play an important role” (Headteacher 13).

Mixed feelings were addressed regarding external stakeholders, especially those concerning parents and guardians. When this topic came up in the interview, feelings ranged from regret to confusion to feeling satisfied with their work. Despite these tensions, the heads were satisfied with the overall feedback obtained through internal reviews, giving positive results. When addressing the schools’ strengths, one head elaborated that “from the questionnaires and reviews which we carried out last year, 98% of the students and 97% of the parents are happy”. (Headteacher 1) This particular middle school head also commented that she communicated with guardians through “numerous meetings” and kept in contact through SMS: “I am using SMS technology a lot, about 4–5 times a month, reminding them of the importance of sending their children to school, to send medical certificates”. (Headteacher 1) She also expressed concern that an area for development was guardian engagement with the school: “These changes will require that parents are more engaged in their children’s lives. That is our greater challenge. I’m not sure how to go about it”. (Headteacher 1)

Other heads reflected on this challenge, with a secondary head of school commented that “parents are a hard nut to crack” despite the “monthly school council meeting”, “where

they discuss issues as to how to get other parents involved in the school life and activities” (Headteacher 4). He further elaborated that “somehow parents abdicate their responsibility and rightly so to a certain extent as they are letting the students take on that responsibility” (Headteacher 4). A couple of heads elaborated that the “parents attended the initial meeting as they are curious about the school. Once their curiosity has been satisfied, their participation starts to diminish” (Headteacher 14).

### ***4.23 School Headship Vision***

As Table 4.8 in appendix 4, indicates, all heads discussed their school vision in depth. One could identify a sense of pride and responsibility from how they spoke about the school they were leading. Different terminology was used, yet each head showed a high-level degree of ownership and responsibility towards their school community. One head stated that his school

is the best school in Malta. I am not saying this to be arrogant; it is a way of transmitting the strong ownership I have of the school, which in turn is passed on to and adopted by the staff (Headteacher 9).

Another head highlighted, “I am very proud to say that I am the head of the XX School. I am proud!” (Headteacher 7). This intense sense of ownership was also reflected in the elaborations of their vision for their schools. School ethos and climate were the key elements mentioned, along with well-being, teaching, and learning. Although all three aspects are interwoven and hard to distinguish, various components were addressed throughout the discussions, even from the ongoing tasks and roles.

## School Climate

This aspect was addressed in numerous ways and ranged from the school's physical environment to ownership and sense of belonging and relationships. The school climate was explained by one head of school as being:

divided into two – one being the school environment, the physical surroundings.

I believe that a warm and colourful environment is essential as we sometimes spend more hours at work than at home; the second is the relationships between the different stakeholders. (Headteacher 14)

All the heads elaborated upon both elements in varying degrees. One observation was that heads of older premises mentioned more issues with the physical surroundings.

Most heads felt *ownership* and a *sense of belonging* towards their school as seen in comments such as: “Teachers are proud of their school and will work towards organising projects” and “the staff is united and giving their input to improve” (Headteacher 8); “I am very proud of the staff which works a lot and is committed” (Headteacher 9); and “a staff where a good 75% of them have a strong sense of belonging and pride from teaching to ancillary staff. They have strong roots in the school” (Headteacher 17).

However, some heads commented that:

something which can be considered both ways is that there is a staff which has been here for a long time. This means that there is a sense of belonging. It could be negative because change for some could be like a bereavement. (Headteacher 6)

Some heads mentioned working on solutions through activities such as “team-building which had a powerful and strong effect on the educational personnel”. (Headteacher 14)

Although most school heads mentioned the sense of belonging, they included more the teaching staff than students and parents. Feedback from students and parents mainly was obtained through internal reviews conducted annually. One head mentioned how school ethos was being spread via word of mouth within the immigrant community: “With parents, it seems the school has a good ethos, especially when some foreign parents are choosing to rent in the surrounding area so that their children can attend this school” (Headteacher 10). He mentioned an incident where “a foreign parent visited the school and told me that he had been instructed to send his daughter to this school. His friends in Romania told him that our school is a very good school” (Headteacher 10).

### **School Ethos**

The school motto or ethos outlined by the various school heads touched on several common elements: wellness and caring, students’ future role in society, and progression and development. While many expanded on the academic aspect of their work, none of them focused exclusively on this. Instead, holistic approaches toward the school ethos were discussed, as seen in this comment:

the vision of the school is that of giving a holistic education as much as possible to all our students in formal and informal learning practices... When they leave school, they leave as mature men and women that have the skills or most of the skills that will help them continue with their lives. (Headteacher 2)

The value of holistic learning and success was described by another head: “What is important to me is that all our students succeed holistically... It is our duty to give the country responsible citizens who will take care of it tomorrow” (Headteacher 4).

Another head also emphasised the element of role modelling and *walking the talk* as a whole school community. She focused on the importance of “living the values... so if, for example, we are focusing on gratitude, then we are all as a whole school experiencing and all living it with even the caretakers involved”. (Headteacher 12)

Such values were also reflected by another head who elaborated on the aspect of “togetherness. Our vision statement is – Together, we dream, believe, work and achieve. I emphasise the word together because I believe a lot in teamwork as together, through collaboration, we can succeed more” (Headteacher 14). Successes were described in two main ways: student progression and entitlement. One head clarified that:

the school vision is that we are a learning community, where students learn at their own pace... What is important is that they enter the school at one level and leave it at an even higher level. There will be some who would have progressed so much, whilst others even more. This is not important just as long as the student has progressed and moved ahead. (Headteacher 3)

Another head commented on this, saying:

The school vision is for everyone to succeed. Student engagement and retention within the school are good as we give them so many opportunities to enjoy learning and coming to school. It seems that we are succeeding in this as it is

being set into action both from the teacher's as well as the student's perspective.

(Headteacher 9)

Other heads emphasised student entitlement: "We need to guarantee proper student entitlement to our students. I am convinced that I have students in my school for whom entitlement is not being addressed" (Headteacher 6). He further added that a "strata of students cannot reach the highest academic path, yet this does not mean they cannot be productive citizens in society" (Headteacher 6). This reality existed despite the variety of learning opportunities and programs one could find within the school.

*Work on raising standards* in teaching and learning was also presented as a challenge by heads, which they referred to as improving educators' pedagogical practices. As a school, they identified different areas for development each year. Some aspects of the vision mentioned were "that we implement 21st-century skills" (Headteacher 16), with direct interventions focusing on "improving homework policy" and "self-learning skills" (Headteacher 15). Numerous heads explained their focus was on well-being:

If the staff is not happy, they cannot produce well; they cannot do their duties well. One of the main aims of the school is that all students feel good and happy, so obviously, when the staff are happy, and they know that we are taking care of them, obviously they take good care of our students. (Headteacher 1)

Pastoral work was seen to be "one of the school's forte" by most of the heads. One head elaborated that:

the pastoral care team is very strong both from the guidance team as well as from several teachers who take a personal interest in the students' well-being. This is important as it means that pastoral work is not just a department's role but part and parcel of each educator's role. (Headteacher 2)

### **School Improvement**

A key element of school leadership was planning for change or school improvement. These change elements were elaborated upon throughout the interviews, as heads of schools were very conscious of its importance. The codes here addressed the macro, meso, and micro aspects of educational change, with three key areas being:

- The process of planning for change and school improvement
- Ongoing policy changes
- The issue of school stability

### ***Ongoing School Improvement***

All heads mentioned that school improvement was ongoing throughout the school year. Through the various school development meetings, teaching staff had the time to discuss and set together the roadmap for their schools. Heads were not always directly involved in the school's internal review process. Setting the questionnaires, collating the data and statistics, or the SWOT analysis were usually delegated to an SMT member. Heads mentioned various methods of conducting the internal review and using technological tools, paper questionnaires, and focus group meetings. These were carried out with the key stakeholders, namely teaching staff, students, and guardians. Heads felt "the school

development plan (SDP) is my main responsibility” (Headteacher 4). The process usually followed was:

Data is collected from different sources. We have a paper questionnaire, and then I use SPSS to analyse the data.... Data is collected throughout the year from class visits. I present the data, which I try to group and not leave as raw data. They chose the priorities, and then during the SDP day, we changed these priorities into action plans. Then come September, we start working on the action plans. With every staff meeting, we check and discuss how we are proceeding on the action plan. Sometimes we amend and check the direction we have taken.  
(Headteacher 8)

School improvement areas usually focused on the areas of “ethos, teaching, and learning” (Headteacher 15); however, action plans ranged from “homework policy” (Headteacher 15) to “multiculturalism” (Headteacher 5), teaching tools such as “more effective use of the interactive white board” (Headteacher 10), and “game-based pedagogy” (Headteacher 2). These visions usually arose from discussions with the staff and heads, hearing, reading, or exchanging good practices with other schools. However, one head stated:

We are so immersed in our work that we do not have time to learn about what others are doing. So, we end up not appreciating what we are doing or like Lilliput, where ours is the only good positive work being done (Headteacher 9).



### *Planning for Policy Changes*

Most heads accepted that planned change was an essential part of the development process of any learning institution; many changes were coming from the macro-level of educational policy and were having a massive impact on the schools: “We are changing all the time. Too many changes and its tiring” (Headteacher 17). These changes that occurred in a relatively narrow time frame have been fast-paced, hardly giving time to reflect on practices; included in the changes mentioned are:

- i. The change from single-gender education to co-education
- ii. The changes within school systems (comprehensive schooling and sectional divisions)
- iii. Curricular changes were moving from teaching objectives to the learning outcomes framework

Most heads referred to these three aspects as impacting school sentiment, with many feeling that teachers could not cope with all these changes, as they seemed to be happening simultaneously with hardly any time to reflect and consolidate practices:

We are in a school with a fast-paced change. Many changes were taking place and included the move from strictly academic to mixed ability with ‘My Journey’ and the introduction of applied VETs. In the four years, I have been here, there have been drastic changes... however, there are changes in curriculum, teaching and learning where teachers and SMT are trying to understand and catch up with all the changes. They are so rapid that they have hardly digested one change that they are already going through the next change. (Headteacher 11)

This was mirrored by another head who emphasised that:

This school had a good reputation and was one of the most prestigious schools, which, with time and new practices, has changed. There was a process of change as the 11 plus exam was stopped. Many teachers found it difficult to adapt and adjust to different abilities. (Headteacher 14)

These indicate an element of change fatigue where staff were trying to keep up to date, yet the goalposts seemed to be constantly moved.

### *School Stability*

One key aspect addressed by some heads was the need for stability. Stability was usually discussed regarding the school leadership teams, whilst change was discussed in terms of constant curricular and classroom changes educators were facing. Four heads explicitly addressed stability in school leadership teams and all felt that changes in teams brought about instability for students and staff. One headteacher outlined how:

when I moved to this school, students were feeling frustrated and also not behaving well. One of the main reasons was that they had a different head every single year. That is a head in Form 3, another in Form 4 and another in Form 5. Since Form 1, these students have never had a stable leadership as it was constantly changing. (Headteacher 17)

Another also commented that “unfortunately in the past five years there have been four different heads of schools which is not the ideal context” (Headteacher 6). Another head

also commented on the frequent changes within the school leadership team; however, he also observed that:

The cohort was changing every year. Aspects of the building were changing every year. Staff moved from one staffroom to another every year; SMT offices were moving here and there. Our students and staff never had that continuity. They might seem small and insignificant things which, however, affect the overall stability and creates certain unrest. (Headteacher 4)

#### ***4.24 Management and Leadership Style and Delegation***

This section addresses the way heads manage and lead their schools. Table 4.9 in appendix 4, shows codes relating to management and leadership styles. Although leadership style and delegation were not specifically researched as part of the study, they emerged as an essential aspect of school organisation and leadership. Gender differences were not seen as marked in the interview data.

##### **Style of Leading**

A common theme that emerged was what I termed *style*, referring to the ways heads behave in their daily activity. Almost all heads mentioned that they had a hands-on approach to leadership and school management. One head, referring to the introduction of the 3D printers in school, said, “we need to be abreast of what is present in school... I need to know what it is and where it is needed” (Headteacher 7). Here he elaborated on the need for rooms such as subject labs and resources for specific subjects and

equipment. Taking up a hands-on style, he felt that he needed to understand how these worked to make better decisions in the future.

This hands-on attitude mirrored by many heads manifests itself in their approach to walk in the corridors. As one head remarked, “I am not an office person, although I do spend time here; however, I mingle a lot with the staff because I feel that they need my presence and support and likewise with the students” (Headteacher 15). Presence was essential to the headteachers’ style of leading. As explained by one head, “it’s not the first time that I am walking the corridors and just visit classrooms to see how lessons are going and get a snapshot of all the different learning environments as well as teacher abilities” (Headteacher 14). One also mentioned, “transport supervision daily as I have an opportunity to get to know the kids” (Headteacher 13).

Another critical style feature was that of *open-door policy*”, especially with the staff. The heads mentioned this in terms of “being available for my staff”, “being humane”, and “staff knock at my door rather than send many emails” (Headteacher 3). Heads were also available to students, although mention was made that students usually entered the heads office for discipline reasons.

### **Delegation of Tasks**

Most school heads seemed to identify which aspects of their roles and tasks were administrative and managerial throughout the interviews. One head puts this into perspective by emphasising that “fronter work gets done by the clerk. I am the decision-maker. It’s the human mind which I am responsible for” (Headteacher 16). This

delineation was mentioned across the board. Administrative work assigned to clerks included school finances, attendance inputting and issuing absenteeism reports, and inputting school exam marks into the school management system.

Decisions around school finance management were taken in similar ways. Most school heads emphasised that “I know how e1 and e1 finance works. I do not input data and clerk is more competent and fluent” (Headteacher 7). They still felt obliged to “oversee as I need to sign for it” (Headteacher 13) or to “check and finalise” (Headteacher 6). Essentially, they felt that “others input, and I have to sit and think how to spend the money” (Headteacher 17). Other delegated work to school clerks included inputting “marks and attendance” (Headteacher 9) and “absenteeism reports issued by secretaries office” (Headteacher 6).

Delegation to the formal SMT members (assistant heads and department heads) was referred to extensively. All heads mentioned that SMT members were vital:

Delegation is essential. I cannot be responsible for everything. An assistant head is responsible for transport, another for inclusion, another for exams, another for pastoral care, another for behaviour monitoring system, an assistant head responsible for Newly Qualified Teachers, and the assistant head coordinating school outings. (Headteacher 6)

Various other tasks were mentioned: timetabling, replacements, class lists, special leave, school calendars, curriculum, internal reviews, and planning of school behaviour systems. Heads talked positively about their SMTs and the extensive support work they carried out within the school.

### **Attitude towards Delegation**

It was clear that when delegating, heads were not abdicating responsibility. Many heads clarified the process of how work was delegated:

Most of the time, I talk to the individual concerned... I prefer that a decision is not one way but that an agreement is reached so that the individual feels comfortable with taking up a new role which s/he can handle. Obviously, I wholeheartedly offer all my support. (Headteacher 2)

Another head also explained that “when delegating, we discuss and everyone knows their role yet needs to know each other’s role so that they can help, support and discuss if someone is away” (Headteacher 7).

An element of teamwork, trust and collegiality in formal school leadership could be noted across the board. Heads used various phrases to describe their interactions regarding delegation, which indicated the trust level needed when delegating. Some viewed their roles as “overseer” (Headteacher 13), whilst others as “band director to see that there is synchrony” (Headteacher 16). One head remarked that:

Many roles are delegated according to the professional knowledge and qualities of the assistant heads. I enjoy delegating if an individual is more proficient than me. They keep me updated and in the loop. (Headteacher 11)

Through delegation, “there is more teamwork. I trust them with the work that needs to get done”, and “I am the leader of leaders” (Headteacher 8). A few heads mentioned checking delegated work; however, this mainly concerned finances and official reports,

which required their signatures. This work was usually carried out at home, where they could focus and concentrate.

### **4.3 Heads and Digital Tools**

The themes elaborated in this section focus on the impact of school digital tools on the heads, as seen in Table 4.10 in appendix 4. The first section addresses macro, meso, and micro policies and practices. The macro aspect addresses policy-making decisions, the meso-level addresses school-based practices for school improvement, and the micro-level addresses classroom teaching and learning elements of digital tools. Most codes in this first section primarily addressed the meso and micro schooling aspects, and frequent mention was made to digital tools for classroom pedagogy. The second section focuses on the professional and personal issues that technology is creating for school heads. The themes elaborated on here address work-life balance issues and well-being.

#### ***4.31 Digital Tools and their Impact on School Practices***

Throughout the discussion of technology and digital tools within schools, heads comment on various activities and contexts. Heads discussed technological implications from policymaking to school interventions over which they felt they had more control, which gave rise to implications and issues arising for teaching and learning. It was interesting to observe the interplay between these three areas, the level of participation heads exercised, and their vision. Table 4.10 in appendix 4, indicates the impact of digital tools on schools.

### **Dealing with Decisions Made at the Macro Level**

Within this section, heads discussed policy-making elements and how decisions might be taken by policymakers and/or teachers' unions, impacting the headteachers' work. Heads had concerns and frustrations around these aspects, which many found confusing and/or limiting to school initiatives and practices.

One of the key frustrations mentioned regarding policymaking about technology was the attitude of one-size-fits-all. Ten heads commented that they had found their own technological solutions to school issues, which were functioning quite well within schools. However, policies demanded that government digital platforms and approved software be adopted. One such example was the requirement to use Microsoft Tools and not Google tools. Guidelines concerning the use of social media were also put in place. These decisions generated frustration, especially for heads who already had good practices. One head outlined a particular example of inputting exam marks; her intervention arose from her definition of technology:

Headteacher 3: Technology is there to help you be more effective and faster so that something which is done manually is done in less time, something which the department doesn't seem to understand.

SZ: Why are you saying the department doesn't understand?

Headteacher 3: There was a system to insert student marks, which was just a click away. So, you avoid writing marks down in the secretary's office with someone else inserting the marks. We had managed to get three weeks' work down to two hours. The new system that has been introduced is taxing, just as the



old system with broadsheets. You go, give the marks, read the marks, and you have to wait.

SZ: And who decided this?

Headteacher 3: I have no idea. Someone from the Department. They applied for the software... and that was the software.

SZ: So, they did not ask you to give feedback?

Headteacher 3: Had they come to schools, they would have realised that there is a system in place which is working. However, they did not come... there was a more efficient system in place. Moreover, the old system was free. The present system that is in place requires paying for a licence.

This extensive interaction could indicate those policymakers were not in touch with what was happening in schools. Another female head elaborated on the setting up of a school Facebook page:

We have some issues with Facebook; however, we have a school council page. We wish to have a Facebook page for the school. However, there were some directives, and although we are exploring, we did not develop one. However, I know several schools that have a Facebook page (Headteacher 4).

Regarding Google forms, some heads were finding ways to get around certain decisions taken by the Department of Education. One head offered one such example “the staff are submitting through ilearn however onto a google form. To log in, they have to use their ilearn” (Headteacher 18).

Five heads also outlined some union issues that limited initiatives being taken within schools. Although these were not exclusive to technology issues, one head referred to Fronter said:

I wish to use the SMT room; however, there is a Malta Union of Teachers (MUT) directive. I attended staff training, and it would be good if staff meetings and agenda were there on it. In secondary schools, it never materialised.

(Headteacher 16)

The union had stopped school SMT members from using tools in Fronter as they meant additional work tasks and responsibilities.

One concern mentioned by eight heads was a policy where students in Years 4–6 were given a tablet PC for their learning. The concern raised was mainly about those students who were now transitioning to middle schools. Questions were raised mainly by heads who did not receive any answers to their queries: “No one has yet informed us whether students will still be coming to school with their tablet” (Headteacher 10) and “I feel that I lack knowledge as to what is happening in primary with the tablets project, which could impinge on our work in the future” (Headteacher 4). Some heads were also concerned about projects such as Bring Your Own Device (BYOD). Quite a few wanted to introduce such practices; however, all heads who mentioned it were concerned or scared of the legal implications of using such technology. Those who were piloting such projects adopted internal procedures through school-based policies.

One other measure commented on by five heads was the provision of external e-learning support for schools. This e-learning teacher was available on a roster basis and was intended to support teachers in developing their digital tools. Mixed reactions were voiced when heads discussed the work of the advisor. Some mentioned that “his impact on the staff is minimal” (Headteacher 3), whilst others worked with their e-learning teacher to develop school-based training and/or policies. One head explained that he noticed the “interactive whiteboard was just being used as an ornament” during his class visits:

We talked with the e-learning teacher. We devised a program for which we also got accreditation so that whoever wanted to continue the course could get an accreditation level. The Union intervened, and we took a step back. However, we implemented it through the subject meetings and school development sessions, and the interactive use of the whiteboard tools exploded. (Headteacher 10)

Ultimately as one head commented:

In each school, there is a support teacher so that if a teacher does not know how to make good use of technology s/he will receive support. Help exists. Those who don't use technology is because they do not want to use technology. It's up to the person to want to make use of it. (Headteacher 14)

### **Responding at the Meso or Whole School Level**

All the heads were using digital tools beyond the essential administrative functions, including school management systems and internally developed systems. Heads, particularly *experimenters*, attempted to find digital solutions to reduce bureaucracy.

Nonetheless, some who considered themselves not so technologically adept had SMT members with skills and interest in technology who helped adapt the school to new digital working processes. The influence of gender was once again not marked though more male heads tended to be labelled as experimenters. However, female heads tended to network more, adopting and integrating solutions within their work process systems.

### *Technology for Administrative Practices*

Heads had various procedures in place to enable efficient use of the school management system. Some utilised the school management system, whilst others had created their own efficient systems using various software, including Excel and Google Forms.

*Student attendance* was one of the areas where the school management system was routinely used. Attendance needed to be inputted into the system so that guardians could be advised via SMS that their child was not on school premises. Due to union directives, most schools mentioned that attendance was still being carried out through pen and paper, with the clerks inputting the student attendance into the system. One head was exploring a technological alternative to keeping school attendance. The issue he outlined was that as there were different timetable arrangements due to different student levels, options and so on, it was rare for one teacher to teach all the students from one specific class, creating numerous logistical issues:

I intend to have two readers near the door like the ones in the shops. Students are given an RF code with a lanyard; we make sure that when they come down from the bus, students are either wearing it or its in their pocket so that the reader can read that they have entered school. The names will immediately appear onto a system which is then easier to input into the school management system. Clerks

would not need to get the sheets of paper from teachers or students depending on when these have been carried out, thus having a more efficient process that reduces time wastage. (Headteacher 4)

*Educators' Special Leave and Replacements* are two connected processes that take up administrative time. The educators' special leave system mentioned was an online digital system, usually taking the shape of a Google Forms/Sheet, which individual school administrators developed for their perusal. Through this form, teaching staff informed the SMT of their special leave requests, whether for personal or medical reasons. This form, prevalent in larger schools, provided information about teaching staff requirements to the assigned SMT member, who then accepted or rejected the request. Some entrepreneurial heads mentioned they themselves had developed such systems, whilst others had technological support from within the school. It was interesting to note that the collaboration of good practices was shared between the schools. One female head pointed out that:

When I was an assistant head, I was responsible for replacements and time off. I changed it to an online version; I did not advertise it. It's a system which uses Google Sheets and such, and till today six other schools are using it. Where I was, they are still using it, here, I brought it with me, a teacher who became assistant head took it with him in the new school... and this is just instead of having a book and sheet of paper. It's a Google Sheet shared with each individual teacher – each teacher has their own individual sheet – Google Sheet has notifications, so if anyone writes anything, I am aware that something has changed and vice versa. Its available 24 hours for you to access it. Obviously,

there are some procedural rules; for example, if you write something at midnight, I don't expect that someone else will see it by 8 am. So, it has reduced supervision and paperwork. Whoever is responsible just writes a yes and changes it from pending. It reduces the time you need to process it; they know how many hours they are still entitled to in special leave. (Headteacher 3)

The second linked process was that of absent teacher replacements, which was carried out in most schools via Staff Cover software, a licensed program provided by the Department of Education. This program identifies the teacher assigned to the class, and the information is relayed to the specific teacher. Time is a factor here as replacements must be found before the first lesson for all teaching staff, whether on special or medical leave.

Maintaining records about *behaviour and ongoing consequences* in schools were addressed similarly to dealing with teaching staff special leave. Some schools opted to use the integrated structure within the software platform provided by the Department of Education, whilst others preferred to create a solution suited to their needs. One head spoke about how her school worked out and combined the behaviour and detention systems:

For behaviour moderation, we use e1. Everyone inputs in e1. However, it took us a long time to work it out, as it wasn't easy to issue individual student reports... Also, the detention system works that way – we use Google Sheets. Till 10 am, if we have student names for detention, we input them into this shared sheet, and then the assistant head responsible communicates the detention to the students.

The communication with the SMT is mostly through these shared sheets.

(Headteacher 12)

Another male head created a whole personalised, integrated feedback resource system:

When a teacher has a mobile constantly at hand, someone did something; they click on the link as they have it saved in their mobile and s/he is immediately directed there, complete it, and send it. In fact, it's used extensively. I receive an average of twenty reports per day from teachers. They report everything, even those who do not present their homework. I encourage that as I need to know. It does not mean I have to take immediate action; however, if a parent contacts the school, all I have to do is click here, and I get all the reports of that particular student. (Headteacher 18)

Eight heads mentioned the importance of having information for organising class lists or subject options regarding *information and data*. For example, data on pupils transitioning between primary and secondary needs to be transmitted from school to school via the school management systems available to government schools. All heads saw this digital tool for data transmission to be excellent for administrative practices: “The introduction of e1 has been positive as it can be accessed from home as long as there is an internet connection... e1 has given us the push to be able to access student marks, to see trends, etc.” (Headteacher 13). A few referred to the school dashboard, which provides an overall impression of the academic overview of the school compared to other schools. One male head found this dashboard helpful and combined school internal reviews and data obtained from it:

For the SDP, apart from the internal review, we also take into account the data found on the dashboard, which shows how our students are faring according to the Maltese island's benchmark. At the moment, I am also going through the MATSEC results subject by subject, which I organise and then send to the teachers. This will help them have an indication as to how students are faring. Also, this becomes integrated within SDP. (Headteacher 4)

Comments about the usability and functionality of the dashboard system were also addressed by a male head, who did not find it user friendly:

Most of the work we do via Excel. The dashboard is not very user friendly... I believe that there is a lot where we can be given training as a Ministry. Example training on the dashboard, data on a national basis, how to compare and contrast. Our meetings are still rather qualitative and not so much quantitative. It would help if we could be trained on how to look at and use statistics and data for decision making. (Headteacher 16)

### ***Technology for Management and Leadership***

All school heads used *communication tools* and commented on communication through digital tools, with emails followed by SMS and some social media tools. Emails and SMS were used to communicate with policymakers, superiors, educators, students, and guardians. Extensive and intensive horizontal and vertical communication were being carried out through these means. Social media was mainly used to communicate with educators and publicise school activities.



Every head of school sent a *weekly or bi-monthly calendar* to all their staff. In general, this was sent during the weekend, so that staff could access it when they get to work on Monday. However, these calendars took on different formats; most sent a Word/PDF document or an Excel sheet with the information and updates. One head mentioned that clerks updated the school calendars through the school management system. Two digitally adventurous heads used this weekly staff communication to provide embedded links or QR codes for immediate access to other documents or reports. Both heads mentioned that the student reporting system was integrated for prompt access to reports. Links to school improvement documents, action plans, and school were also included. One head also sent them a weekly reflection with a brief reading or YouTube clip which was the learning focus for the week, while the other explained that:

One thing I do weekly is this (shows a newsletter), which includes the What's On. The calendar of events is online where teachers and personnel can access it. I do this what's on weekly. I send it to staff on a Sunday evening; many see it on Monday. With it, I include an attachment. That is all my work. During the weekend, I stay working on designing it, including some observations that I would like to transmit and an idea for the week ahead. For example, this week its creativity. I read something somewhere and say this is good for the staff, such as food for thought. There is a weekly schedule of activities. It is all done technologically and interactive. Anything which the educator requires is just one click away. If you need to report a student, you click on this button, and it connects you to a section; it is embedded there. There are connections to school policies, school targets which are also interactive. Through a link, one can get

immediate access to the SDP and any related links. So, one does not have to search; one immediately finds links. (Headteacher 18)

Ten heads also referred to *school meetings and procedures*, which were sent via email. Heads usually followed up the face-to-face meeting by sending the minutes via email. Thus, educators could follow up with the points presented during the weekly, 15-minute meetings. Other decisions requiring actions were usually communicated via email for clarity, cohesiveness, and immediacy. One female head mentioned two examples: “After staff briefings, where I point out some messages and make them clearer, I follow up the staff briefing with an email to reinforce what I have said” (Headteacher 1). She went on to elaborate:

An example is that this year we changed the system as to when Learning Support Educators can leave the classroom and who is going to give this permission.

When it’s going to be a long-term absence, like the teacher tells the LSA not to come to the lesson, it must be done in writing. This way, the teacher won’t blame the LSE for not being there as it’s the teacher who exempted her. There were some misunderstandings, and so I wrote a procedural email so that everyone was on the same page. (Headteacher 1)

Aside from official circulars received from the department, heads also received *numerous emails from educators and guardians*. Although the school secretary managed a specific school email system, most preferred to directly communicate to the head’s personal email, bypassing the school email and thus generating more work for the head. Emails received were usually personal or requested information on procedures or issues

with a student at school. All heads felt duty-bound to respond to these emails and provide the best answers they could:

However, if they want to talk to you or remind you of something, they send an email. And now people do not send on the generic school email but the send on my personal email. The Secretary ends up being made redundant as everyone is sending them personally and not to the school. All emails from staff issues to renting the hall are being sent on my personal email. There is no filtering. I still have got to go through them and then delegate them to assistant heads or whoever is concerned. There is that loophole in communication. (Headteacher 12).

One observation made by most heads was the difficulty of identifying ways to communicate with guardians. Although integrated structures and systems existed within the e1 set-up and were used by all the schools, not all guardians were using such tools:

I think we go around it the wrong way. We are teaching students to be digital literate; however, we also need to take care of the parents. We have extremes; there is quite a chunk who are computer illiterate. Part of technology in education needs to integrate more the parents within education. (Headteacher 17)

This head further commented that “with parents calling them on the mobile is the most efficient” and that they “still send paper circulars home with the students mainly” (Headteacher 17). Reasons given by different heads varied from most parents still not using email, failing to check it, or giving wrong addresses. The most used technology with guardians were phone calls, SMS, and even social media, namely Facebook.

Twelve heads mentioned *social media use*. Those who had school pages mentioned using various social media mainly for school publicity. This meant that whenever there were activities at school, these were posted on the school page. Mostly female heads of schools felt that this was one way of strengthening the school's ethos and publicising the positive work being carried out:

I constantly try to publicise what is being done in school, whether through my Facebook page or through the school's Facebook. We also have the school website. .... A HOD manages the school website. The school Facebook is me and some other teachers; we put up things and activities on our page.

(Headteacher 14)

Other areas mentioned were pastoral care issues related to cyberbullying and legal concerns related to social media use. All these were also seen to be impacting their mental health and well-being.

A few heads outlined the importance of digital tools for *collaboration*, *teamwork*, and *decision-making*. Eight heads elaborated on collaboration and teamwork, with this terminology mostly addressing work done regarding behaviour management and school projects or work-related tasks:

Another thing is the shared sheets which are like Excel – we as SMT use them a lot. I wouldn't have been able to arrive there; however, they taught me how to do it, and I use it. For example, we communicate what we will say in assembly.

(Headteacher 12)

Four heads also mentioned digital tools as essential tools for *decision making*, including polling, allowing staff to give quick feedback throughout the year, and inputting the planning of the school development day. In one example, a female head referred to a case when feedback was requested from the Department of Education about a particular issue. The head immediately set up a quick Google Poll and received almost instant feedback from staff. Thus, staff were included in such decision making whilst getting on with their daily tasks. The head explained that:

I include the educators a lot. For example, there was a question as to whether we wanted the mid-yearly exams to start before or after the Carnival holidays. I created a quick form – yes or no. Those who did not answer, I took as meaning that they are indifferent when the exams are held. I gave them, for example, a two-hour deadline, and with a click, they voted. There are systems that one can utilise and employ. (Headteacher 3)

Numerous heads referred to the decision-making during the school development and planning (SDP) meetings throughout the year. A few heads mentioned mobile apps which staff could use:

So, when we are doing the SDP, we have to do a SWOT analysis. So, I use Survey Monkey to ask certain questions for statistical purposes. In the last SDP, I had a guru who was helping me in it, and we adopted a system whereby through mobile phones, we could vote there and then and see the statistics appearing on the screen. That was nice. It was very convenient as it saved a lot of time. But it's a gimmick. (Headteacher 9)

### *Digital Leadership and Implementation*

From the interviews, a mixed situation emerged in that many heads agreed on the importance of technology within education for schooling and in the classroom. They created some form of vision about using technology but needed more expertise to extend their use. Many heads referred to individuals in their staff whom they perceived as digitally competent and knowledgeable and who could support them in identifying and implementing innovative solutions.

Technologically curious heads attempted to identify the everyday process which could be developed or improved with digital tools. They outlined how they had observed a digital tool use, identified how it could facilitate a process and worked towards creating a system. One male head outlined this process from observation to implementation:

The QR codes intrigued me. I saw it working in a class during a Design and Technology lesson, and I said I had to make it work for school. He (the teacher) was working with QR codes with the students... He asked them something; he was connected with his mobile, and with the mobile planning the class, he quickly collected the answers... I started getting interested and now have integrated them and am using them within the system. Now I have widened it to use it for behaviour management. This year seems to be the best year for this QR behaviour code system since its introduction three years ago. There are links to the Google Sheet, which I then receive for review... To facilitate this, I included the links in the front and at the back the QR code of the weekly staff newsletter, so it's immediately available. (Headteacher 4)

The staff were brought on board with modern technology through training:

I held a staff meeting to explain. All you need to do is go on the QR code, and it directs you. You go on it, click on view details, and it takes you directly to the form to complete it. It's just clicking. (Headteacher 4)

Another head outlined the sheer amount of work required to develop a school policy for mobile use, whilst other heads mentioned their anxiety when discussing mobile use within school, even though they were aware of the educational benefits. He explained:

We cannot remain in denial that the smartphone is just a trend. There are several interesting uses; however, there still is fear about the use of the mobile. People do look at the mobile in a negative way. However, as a school, we have taken a small step. Through consultation, questionnaires and feedback carried out with all the educators; we permit students to bring their mobile phones to school. However, they cannot make use of it during exams. They need to be responsible that it is switched off and it is in the bag. Why did I adopt this procedure? I started it so that students start becoming aware of their responsibility when carrying their mobile at school... No, you are responsible for your mobile. (Headteacher 18)

When outlining the consultation and implementation process with the staff, the head explained how Google Forms were used:

I presented different scenarios to the teachers, whether to remain as we were, that is, no mobile phones in school, and they are totally prohibited; whether they could keep their mobile phones with them however switched off in their bag;

whether they could get the mobiles and keep it in a locker; there were another two scenarios... (head could not remember them). First, we discussed it at the SMT level, we built the setup, and then we sent it to all the staff. I carried out a meeting with all the educators and explained the situation clearly to them- that is where we are and where we would like to be. However, I explained that we have to take one step at a time. As I explained that my vision was that of the BYOD concept, it is a tool. Instead of the school buying it for you, you have already purchased it... It is a powerful tool in the student's hand. It can help him learn better, and we are leaving it out of education. The intention was to reach that point; however, how we get there needs to be slow. I don't want them to ask students to get their mobiles to use in school, and there is a whole confusion and rebus. You cannot implement something immediately. (Headteacher 18)

The legal aspects of having a mobile phone on school premises were common concerns among all heads. Many were afraid of mobile use, such as video recording a teacher or classmate in class and the potential legal implications. One head explained that the danger was still present. However, the school:

sent a circular home that it is illegal to use the mobile on school premises without an adult's permission. If technology is going to be misused, then that responsibility falls on the student. This situation always existed... However, when everyone is getting their mobile, the possibility exists that someone else can also record me. These negatives cancelled each other... Funnily enough, when we had no mobiles at school, I had extensive reports on mobile misuses and had a whole drawer of confiscated mobiles, as they took them out in class



etc. Since we gave them the responsibility of taking care of their mobile at school, I am not receiving reports of children taking out their mobile in class. Being denied from getting it to school, to look cool, I would take out my mobile. Now, what's the use? Everyone has a mobile. Next year, my plan is that certain teachers can ask the students to use their mobiles in class under control and supervision; that is the next step. (Headteacher 18)

### *Issues Created by Digital Tools*

Despite their appreciation of the effectiveness of digital tools, heads still face numerous issues and new challenges due to digital tools, which they are expected to deal with as part of their duties and responsibilities. They described technology “like a knife – it cuts both ways” (Headteacher 10). Key issues ranged from procurement issues to dealing with damages, lack of licensed software for specific projects, and updates.

Five heads referred to *technology updates*, mentioning that technology is undergoing “ongoing changes and updating of software” (Headteacher 1) and is “being updated so fast that it is tiring and difficult to keep up with it” (Headteacher 2). Updates were needed to run the administrative aspects of the school, for example, the change of timetabling software for licensing reasons. Similar issues were raised about updating teacher tools such as interactive whiteboards. Another aspect was that having different software and materials resulted in teachers modifying and adapting their teaching and learning resources to two formats.

Two heads also referred to the reality of having to *learn the technology management* required for procedures such as school bell setting and using CCTVs. One head mentioned that “I had to take time to learn how to use the CCTV system within the schools”, and when there was an incident close to the school, the head “spent a day with the police working through the CCTV coverage for them to review” (Headteacher 1).

Another issue was *procurement*. Four headteachers referred to the departmental procedures in place to purchase technological systems for schools, mainly CCTV cameras, and the follow-up and procurement problems when the damage occurred to systems. As with school maintenance, heads who discussed this all agreed that dealing with these issues took time away from their learning and teaching roles:

Another issue is with the CCTV. Why did they put the responsibility of finding three quotations on the school before deciding which one to use? As a department, just get them installed... Why do we need to waste this time?  
(Headteacher 17)

Other heads elaborated on damage to school technology. Two heads experienced a similar situation in that lightning had damaged the school communication system. One head clearly outlined the frustration he experienced as many hours were spent trying to find a solution to overcome all the bureaucracy and technological issues. The extensive exchange below outlines the issue and process the head had to go through:

SZ: Other technology in school such as CCTV, microphones, Internet telephones?

Headteacher 2: Yes, we have. We have many which are not working at the moment. And that is one of the main problems where I have to run after people to fix things. For example, there was a problem with communication between the administration and the classrooms in this school. We had a system that had been set in place when the school was refurbished, not even ten years ago. This system is already obsolete and not functioning; cables are below ground and have been eaten by rats; I started pushing to arrange this system, and after a lot of chasing people around, we were one of the first schools to introduce the IP phones. Last September, after a huge thunderstorm, the school took a direct hit and damaged the system with sixty telephones; the PA system is not working; 20 or 30 cameras also got affected. I have many things which are not functioning. So now, for example, to arrange the system, the telephones have been purchased again... we are talking thousands. The network cards of the computers of the interactive whiteboards got damaged; they cost €1,300 each, and I have around 13 damaged in one block. We have €25–30k in damages.

SZ: And what would happen in this case?

Headteacher 2: These will be financed by the Foundation for Tomorrow's Schools (FTS). We are taking long because FTS needs to issue a tender that no one has applied for. They need to identify who is going to fix them. Before fixing the telephones, they needed to fix the lightning poles because there were no lightning poles within this building. So, I needed to apply for lightning poles before these were fixed. Telephones cannot be fixed because of insurance purposes; we are stuck.

SZ: In terms of safety, it left you in quite a vulnerable position.

Headteacher 2: Very much so. My feet are feeling the effects because to talk to a teacher, I need to go from one block to another. I cannot phone because the telephone system is not functioning. Moreover, I wrote to the Director-General, the Minister... I don't know to whom I haven't written... you end up getting tired of running after everyone.

All these administrative aspects concerning digital tools seemed to take time away from the heads' curricular focus and impacted work practices. Additional work pressures were also creating additional stresses on the already overwhelming workload of heads.

### **Responding to Changes at the Micro-Level.**

All heads addressed the importance of digital technology for learning purposes. They emphasised the need to have digital tools and use these within the classroom whilst addressing their relevance for engaging students with learning. However, heads had diverse levels of acceptance regarding which digital tools could be used within the classroom. A few heads were open to some digital tools for classroom learning use and worked on providing clear school policies to support any tool. Some heads developed specific school improvement action plans to support these tools for teaching and learning in the classroom. A few others were hesitant as the devices that could be brought to school included smartphones with all the added complications. These headteachers were generally aware and accepting of the positive use of digital tools within the classroom. Yet, they limited such tools to those with policies in place and accepted by the Department of Education.

Those heads (12) who had school improvement plans in place had higher awareness and knowledge of digital tools. Such improvement plans were wide and varied, from improving the interactive whiteboard's use to promoting other pedagogies and tools such as game-based learning. It was also noted that most of these initiatives arose mainly from educators. One head of school outlined this situation clearly. Following feedback from the staff and key persons, solutions were identified to address relevant concerns whilst still allowing innovative teachers to keep evolving. These worries were usually related to the inappropriate use of social media recording and transmission, as already stated above:

Areas of development are to use the interactive whiteboard more interactively.

However, we worked on this aspect with the HOD of e-learning and ICT; we will be identifying interactive tools that the teachers can use. However, as a school, we will subscribe to some tools which can add technology to the classroom. We have those who do not know how to open the interactive whiteboard, and there are those who use BYOD during their lessons. Although one cannot get a mobile to school, some teachers use BYOD, where students sign consent forms.

(Headteacher 8)

This head also commented on the fear of the harmful use of technology:

Yes, there is fear about technology devices, which is valid, but it should not restrict us from using them. The HOD guided us in preparing a policy that every teacher gets students and parents to sign. The main point is that the device is used appropriately for learning within the classroom. I have teachers who do not know how to use the interactive whiteboard whilst others know how to use it

extensively... Everyone is always moving ahead. It's like a train moving in a direction, hoping that everyone gets on board. (Headteacher 8)

Despite their fears, these heads still considered technological tools for learning essential. One head had just outlined the detailed school strategy for improving interactive whiteboard use for learning. However, when asked about BYOD, he felt anxious:

It scares me – Bullying, which gets filmed and posted on the Internet. The improper use of it. That there is nothing legal and that no one will back you up if something goes wrong. Also, outside of school hours, children spend so much time using technology; I would like school to be different. Moreover, there is more than enough technology at school. (Headteacher 10)

A few heads also mentioned exposure to European education projects such as Erasmus and E-twinning related to technology. Some spoke of how educators were contributing to the uptake of digital tools within the classroom:

I had two HODs who participated in a project Erasmus plus, with the University of Malta and Malta Information Technology Authority on game-based learning, and they are helping the staff take up this reality. When I see that there is sufficient expertise within the school that can prompt new ideas within the school, by all means, it can be the most effective way to push forward ideas within the school by staff working within the school. It makes more sense for teachers as well as when these sessions are being conducted by staff working within the school... teachers see them as individuals who are living their reality,

not someone from outside and from the department who never lived our reality and is just telling us what to do. (Headteacher 2)

Another head mentioned how digital tools were being implemented for teaching processes such as assessment:

There are various applications which could help teachers and students in class. It is more interactive for students; assessment could be ongoing and formative.

Through an Erasmus program, some teachers learnt how to use Edmodo so that students directly submit their work to the teacher, and it gets assessed as well; that is the next step for the coming year. (Headteacher 18)

All heads who had staff participating in such technology-based international projects all considered such projects and participation as beneficial and essential for staff development.

#### ***4.32 Impact of Digital Intensification on Work***

Despite mentioning mostly positive impacts of technological tools, heads also emphasised how their workload has intensified due to technology. This work intensification seems to be impacting their daily lives, adding stress and negative emotions. Several heads associated feelings of intrusion (12 heads), sadness (3 heads) and feeling overwhelmed (10 heads) with these digital tools. Some of the other feelings associated with digital tools, such as feeling overwhelmed and controlled, arose from the way they were using digital tools.

Three heads lamented a certain loss of *personal contact* with staff due to the various digital tools being employed. Despite there being an open-door policy within schools, teaching staff preferred using technological systems:

We have a system within the school that when a teacher is sick or needs special leave, the teacher logs onto Google Forms. It's very convenient; however, it has also reduced personal contact. Before, when one needed special leave, the educator would come to me or the assistant head. That human contact has been taken up by technology. Now they just log in. Before, there was an element of respect in that you inform some time before if you need special leave. Nowadays, they just send a message at midnight, and I find it the following morning. If it were for me, I would revert back to pen and paper, as when a teacher comes to ask for special leave, there could be other concerns that crop up, such as medical reasons etc. (Headteacher 9)

Many of the heads had *synched their devices*, i.e., work laptop, personal smartphone etc. The synched systems were usually their school and personal email and other social media communication tools such as Facebook, Messenger, and WhatsApp. One head commented that “technology made me more present when I'm not present” (Headteacher 6). Many, however, further elaborated that “it was a disadvantage whenever I am out as I read the emails” (Headteacher 8), “my mobile is constantly ringing” (Headteacher 13). This indicated that their work was being carried around with them in their bag or pocket, and they were losing their work-life balance.



This led to heads working *long hours at home*, as their work laptop “has created extra work and added more stress as I am taking my work home with me. If I have the laptop at home, I work, and I feel the need to answer emails received” (Headteacher 2). Heads work between two to three hours per day, including weekends and holidays, “to catch up on my backlog” (Headteacher 16). However, all mentioned that emails and other work, such as writing reports, answering questionnaires, and checking finances, required concentration and focus. All this got done outside of school hours with the main reasons being that during school time, “I need to decide which of the school issues are urgent and which are important” (Headteacher 5); others emphasised that “they opened their laptops after school hours” (Headteacher 1).

*Emails* were considered to be one of the main stressors. They felt that there was a “constant barrage of communication from all directions (vertical and horizontal) which I need to manage from circulars to staff communication etc.” (Headteacher 14). All this seems to indicate a faster pace of decision making and response required. One head emphasised the impossible deadlines received in certain emails such as “today by noon. It’s not always possible to provide them with an immediate answer. Example, during the day I hardly had time to open my computer let alone answer my emails” (Headteacher 4). Another head commented that “if an email is not answered within three days, usually this is followed by a phone call” (Headteacher 12). Heads felt overwhelmed by the pressure that “people are expecting immediate answers” (Headteacher 13). One head mentioned that she dreads Sunday evenings, “as everyone is online, and I start receiving emails from everywhere, and issues start being put forward” (Headteacher 16).

The length of circulars received from the Department was also commented upon by one head who emphasised that:

We are also mistaken when we constantly correspond at all levels only by email from the Ministerial to Departmental level. We need to meet the people, we need to have the people on-site, and we need to have the Education Officers here on-premises. They talk to you, that they are present, dealing with real situations. They send three-page circulars, and they expect us to read each word, highlight areas etc. This takes an hour or two for each such email. Emails need to be brief, short, and direct to the point, and you sustain it with your presence. We end up talking to each other through a machine. (Headteacher 6)

Apart from the time required to answer an email, five heads commented on the impersonal nature of this tool. One head, in particular, mentioned an incident that left her very upset, where she explained that:

I prefer phoning rather than sending an email. As technology also has that aspect that they forward you anywhere without your knowledge. Something which I felt this past week especially is the pressure. I said no to an activity, and I clearly showed them that I had discussed this and that there was the reasoning behind this decision. You got copied to the Director so that further pressure is put on you. So that you feel pressured by the Director, and you have to give in. I had three similar situations this past week... Also, the fact that everyone is going to find out about it. Even if I committed a mistake, everyone knows as they have been copied in. Moreover, it seems like that is the intention. Instead of

approaching you individually and informing you of an error on your part, everyone is copied in. (Headteacher 8)

Such an intervention indicates how due to technology's promptness and impersonal nature, one can use technology with negative consequences.

#### **4.4 Summary**

Throughout this chapter, findings from the interviews were presented and structured around key areas concerning management and leadership themes. These were designed around the research questions on how Maltese heads view digital tools, their attitudes towards digital tools, how they are used within schools, and how they impact their role. The first section looked at the heads' use of digital tools in their daily and professional lives. Most heads used digital tools extensively; however, they had mixed feelings about how their roles changed due to the take up of digital tools.

The second section addressed the heads' roles, tasks, and visions. This showed how they had extensive leadership and managerial tasks, from organisational ones to teaching and learning improvement and people management and support. Delegation was an essential element of their role, supporting their school vision and ethos. The concluding section elaborated on the role of technology in heads' leadership and management. Frequently, digital tools were utilised for management, communication, and marketing purposes. Some mention was also made of these tools for cooperation and decision-making purposes, especially concerning school improvement practices. Finally, this section also

addressed the implications of these digital tools on their well-being due to work intensification.

These findings address the key research questions and points on e-leadership in school settings. A clear picture emerges by putting together the physical educational leadership elements and the use of digital tools. Technology is mostly being used for administration and management purposes within school leadership. Yet, few Maltese heads of schools are using technology to its full extent, for example, to assist in leadership tasks like vision creation, trust-building, and school improvement. The next chapter addresses the implications of these findings for the research questions and elaborates further on school e-leadership.

## CHAPTER 5: DISCUSSION OF FINDINGS

### 5.0 Introduction

This chapter discusses the findings arising from this study, comparing them with other studies. The chapter is organised around the four key research questions outlined for this study. The emerging themes will be addressed first, followed by an additional section that focuses on the concept of e-leadership within formal school settings.

**Section 1** expands on the first research question: *What are heads of schools' experiences, attitudes, and perceptions of technology?* This draws on the findings found in section one of the previous chapter, as they concern personal attitudes, training, and use of technology within their personal and professional lives.

**Section 2** addresses the research questions focusing on headteachers' personal vision of school leadership and technology: *Is technology being used by heads for managerial and/or leadership within the school?* The first part of this section focuses on their general vision of school management and leadership. The second part then discusses how digital tools were being used in their professional lives and how they impacted their work at the macro, meso, and micro levels.

**Section 3** focuses on two research questions: *Is technology changing the role and tasks of the Maltese head of school and, if so, how? And what opportunities and challenges are heads of schools identifying regarding their use of technology in their leadership practices?* Here, the discussion on how heads see technology changing their roles and

tasks and the opportunities and challenges that arise with technology is developed. This addresses overarching concepts such as power, delegation, work intensification, and digital well-being.

**Sections 4 and 5** discuss the concept of *school e-leadership* arising out of this study of Maltese schools.

### **5.1 Maltese Heads of Schools and their View of Technology**

Digital skills, competencies, and attitudes are considered vital in many workplaces and even more so within educational settings. Digital tools within the school landscape are numerous and varied, clear in the extensive use of technological tools mentioned by the Maltese heads within their schools, including the Internet, telephone, school bell, CCTV, school management systems, and office applications. In addition, one needs to consider all the classroom ICT focused on teaching and learning.

People's attitudes are vital in technology diffusion within any setting (Rogers, 2003). Maltese heads are typical of many other heads around the developed world in that a positive attitude towards technology increases engagement with technology. This is indicated when looking at research on heads of schools in other studies, particularly concerning ICT use in the educational context (Anderson & Dexter, 2005; Bai & Ertmer, 2008; Rogers, 2003; Schiller, 2003).

All Maltese heads mentioned extensive use of the Internet in their personal lives. Areas covered included searching for information in general and practical uses such as financial services and online shopping. Only occasional use was mentioned for social media purposes, which is surprising as studies indicate that online socialisation was one of the main uses of the Internet. In fact, other studies identified email as a key tool used by heads in their personal lives (Afshari et al., 2009). As Felton (2006) identified, teachers viewed headteachers' favourable attitudes toward computers as indicating support towards its integration in the classroom. Maltese heads use digital tools more extensively for consumption, namely online shopping, e-banking, and financial services, rather than social contact. There could be several reasons for this finding. Emails became part and parcel of their daily lives, and they did not distinguish between emails for personal and professional use. It could also be that they were so tired of sending and receiving emails after working hours that they avoided them when they left work. Other reasons could be that consumption like online shopping and accessibility to financial and banking services had become faster and easier, allowing them to make more effective use of their time.

The use of digital tools in heads' personal and professional lives seemed seamless, as there was an integration to and from the personal to professional. This indicates how effortlessly technology has been taken up by heads who are characterised as digital immigrants whilst their students are digital natives (Prensky, 2001). Although their level of proficiency was notably varied, all heads believed that technology was here to stay, even if it was "a knife which cuts both ways". Maltese heads were very aware of positive and negative uses within the school setting yet still used digital tools

extensively. They were proficient in using word processing documents in their professional lives, especially for report writing and email communication (Afshari et al., 2009; Schiller, 2003). All heads also mentioned using spreadsheets for work-related purposes such as school personnel classification and creating class lists. However, very few mentioned creating and using spreadsheets or databases for data interpretation. Data interpretation was an area referred to by headteachers as one they would appreciate receiving further professional training, indicating their awareness of its increasing importance. This resonates with Blau and Presser's (2013) findings that data available through school management systems improves school decision-making.

All heads had received training on using the computer software required for schooling purposes, with some also having formal certification courses in other areas of ICT. However, the curiosity, application, and integration of such technology into their professional life created a distinction between the levels of use of digital tools. As shown the heads demonstrated different behaviours toward technology use, distinguished as innovators, curious, and functional.

Although the study was not intended to explore which teachers best fit these categories, a brief overview is helpful to inform future research in the area. The innovators were observed to use digital tools for administrative and managerial roles and tasks whilst identifying new ways to improve practices, including overcoming the labour of daily tasks and improving school climate and practices. The heads of schools who fit the pattern of *innovator* were two males between 40–55 years who had been in school leadership between 4–6 years. Both worked within the Northern region of the island and



had followed the ECDL course, as well as the various training offered for digital administrative tools. They were knowledgeable about technology and integrated tools into their personal life. They had a curious, experimental attitude, and what specifically distinguished them was their awareness of technology for school organisation and improving communication. They could apply applications developed in another context, say QR codes, for leadership practices within the school.

The *curious* category best fit 10 heads of schools, seven females and three males aged between 40–51 years who held their present role for 2–11 years. They took the ECDL courses and more specialised training courses and used digital tools in their daily lives and professionally for schooling, organisational purposes, and communication.

Nevertheless, they were not adept at using tools for school vision, cultural cohesion, and other leadership goals.

The *functional* category best fit six heads of schools: three males and three females with a wider range of years of experience. Here the heads had a basic knowledge of digital tools and used technology for fundamental uses such as searches via the Internet. They used those digital tools required for management and administration purposes in their professional work, and exploration for integration of tools for school leadership purposes was minimal.

These categories resonate with Rogers's (1962) diffusion of innovation theory, which outlines how a product or tool is adopted within an organisation in the identified categories: innovators, early adopters, early majority, late majority, and laggards.

Innovators were seen as willing to take more risks and might lead change. Early adopters were more cautious in adopting technology but were influential in getting other people on board. Late adopters waited to see if an innovation was working in other contexts before getting on board, and the late majority were sceptical and needed support. Finally came the laggards who would hold out as long as possible and only adopt change reluctantly. In my study, there were: innovators who were willing to take risks and try out new ideas; the curious fell between the early adopters and the early majority, who were aware of the need for change and did not need convincing to support the technology uptake; the functional mainly fell within the late majority as they might adopt a change once it was tried by others. There were no laggards amongst the heads who would doggedly hold out on change even when offered support and resources.

**Table 5.1**

*Level of proficiency around ICT*

Level 1 – Innovator	<ul style="list-style-type: none"> <li>• Technology innovator</li> <li>• Creates the tools they need for their work</li> <li>• Well-integrated into their life</li> <li>• Optimistic about all aspects of technology</li> </ul>
Level 2 – Curious	<ul style="list-style-type: none"> <li>• Use technology in their daily life and for work purposes</li> <li>• See technology as an essential part of their work-life</li> <li>• Comfortable with it in their life</li> </ul>
Level 3 – Functional	<ul style="list-style-type: none"> <li>• Use technology just for work purposes</li> <li>• Pragmatically use what works to achieve the tasks</li> <li>• Use the very basics in their life</li> </ul>

This leads to a discussion of the importance of professional development training for heads. SIS's training was considered essential, with all heads attending the training on software that they were required to use to organise the school. All had attended training courses and continued attending update sessions even if they considered themselves proficient in the software. Heads stated that such courses were supporting them in their school managerial and administrative roles. This is in line with Felton (2006), who argued that heads "must be given support to help them continue to understand and use computers for the complex tasks of their jobs" (p. 83). Such training could address headteachers' affective and reflective needs whilst keeping them updated on technological tools. Although the heads consider such sessions technological support, the underlying reasons for attendance could also have been the opportunity to meet other colleagues in middle and senior management, giving them time to discuss other aspects of their job.

Despite the training provision, the time needed to attain proficiency was also addressed. Some heads emphasised that they needed sufficient time to become proficient, with "trial and error" being frequently mentioned as a learning strategy. This indicates that professional development in software training was essential, but more time was needed to apply and consolidate these skills. At present, this is usually carried out in the headteachers' free time, with extra time being required for learning to use technology extended to software for schooling purposes and digital tools for management such as the school bell and CCTV. Here heads could sometimes call on help from suppliers during a regular school day, or else they fell back on the manual when necessary. This generated frustration as it took time away from their other ongoing work.

Once a head mastered the digital skills and tools, they felt more confident and seemed to have a more favourable attitude towards computer use. This could signify an element of self-fulfilling prophecy, where the more one learns and integrates technology into one's professional and personal life, the more rewarding. This was mentioned numerous times by the heads who felt they had become experts in using educational software, such as timetable software. As Felton (2006) also indicated, once tools were mastered, less time was required for certain tasks whilst improving their work quality. By recognising this potential of technology, headteachers understood how these tools improved their time management whilst being efficient and accountable.

Some headteachers referred to challenging technological issues: the continuous changes and updates with the software being used for school organisation and interactive whiteboards. They specified that such updates and changes created situations of confusion and frustration for them and their teachers. They felt that once they had adjusted and learnt a system or tool and started feeling comfortable using it, a new learning cycle needed to start all over again due to these updates. This issue needed to be factored into the management and leadership of the school as it resulted in new processes and procedures. It could create frustration amongst their teaching staff which heads had to address by finding viable solutions to ensure stability within the classroom.

## **5.2 How is Technology being used within Maltese State Schools?**

Throughout this section, the following key research question is addressed: *Is technology being used by heads for managerial and/or leadership within the school?* Initially, the discussion outlines the context the Maltese heads work within, alongside their personal vision for their school. This then moves on to a discussion as to how technology is integrated within Maltese state schools.

### ***5.21 Personal Vision of School Management and Leadership***

#### **Governance and Autonomy**

This study corroborates earlier research findings that clearly outline the lack of autonomy experienced by heads and the influence of centralised systems over Maltese state schools. Throughout the study, frequent mention was made of policy changes that had to be integrated within the school system or school improvement system. Heads emphasised that these changes created frustrating situations due to the fast pace of implementation, leaving all educational personnel within the school trying to understand and catch up with hardly any time to reflect. The Maltese educational ecology reflects a hierarchical structure that attempts to give the impression of a decentralised system. Mifsud (2015) outlines that “the heads are vehicles of power, a channel for the asymmetrical and uni-directional flow of power from the Principal, the Directors General, and the Minister to the various stakeholders below” (p. 129). Bezzina (2019) explains further that Maltese colleges are a vehicle for government-driven school reforms with evident gaps between the policymakers’ view of the system and how it unfolds daily in the eyes of the head. As Bezzina (2019) puts it, “Heads of School feel

that decentralization of leadership roles is at best artificial”, giving rise to “contrived collegiality” (p. 377).

It is interesting to note that since the inception of the college system, there has been an ongoing debate with heads seeing it as a “form of imposition, although there is an element of ambivalence in their response” (Mifsud, 2015, p. 218). This ambiguity could also be observed in this study where, on the one hand, heads commented on the ongoing imposition of reforms from the Department, whilst on the other hand, they felt empowered as the ones implementing change within schools. This ambiguity extended to the role of the college principals, who heads occasionally mentioned as supportive, yet who also generated an excessive amount of work as they were answerable to them.

### **Roles and Responsibilities**

The roles and tasks of the Maltese heads are extensive and range from organisational administration and management to people management and attention to well-being. The reality is that headship encompasses all aspects of school life, whether addressing pastoral care systems, school improvement, or technology integration (Byrom & Bingham, 2001; Schiller, 2003). Like heads throughout most systems, Maltese heads are educational managers responsible for efficiency by overseeing systems, bureaucracy, and accountability (Leithwood et al., 2000; Mulford et al., 2009).

Heads of schools in this study indicated that they are committed individuals who go beyond their line of duty to fulfil their roles and responsibilities. All pointed out throughout the research that they were dedicated, engaged, and motivated to address

their schools' realities alongside their responsibilities and priorities towards their staff and students. They felt a huge responsibility on their shoulders, as they were aware of their influence on all aspects of school life and even more so on student achievement. Again, this makes them no different from many other heads (Boris-Schacter & Langer, 2002; Day & Leithwood, 2007; Fullan, 2002).

Students' learning and teaching were two key areas frequently mentioned by the heads. They see these as the cornerstones and priorities for their leadership role, vision, and strategy development. However, these areas were where the heads expressed major concerns and a sense of guilt. They were very aware that they did not sufficiently prioritise these areas and needed to dedicate more time to them. This again is in line with other literature, as in a study of Maltese heads by Debono (2015), who found that heads worried about not doing enough in teaching and learning.

The key reasons for these feelings of guilt were mainly due to the extensive tasks and responsibilities Maltese headteachers had. They believed that they were responsible for everything, requiring them to take on different roles during the day, from curricular leader to pastoral care and maintenance manager if required. These heads were overstretched (Debono, 2015), with specific areas mentioned in Malta being:

- Time spent supervising construction and maintenance work
- Vast amounts of bureaucracy and paperwork, mostly in the form of emails
- Attending numerous meetings

Heads felt that they were working more on headship's administrative and managerial aspects than on the instructional and curriculum-related key leadership responsibilities for the whole school. They were so engaged in the daily routine that they had limited time to reflect upon issues concerning teaching and learning critically. It was as if they were trying to look ahead whilst being stuck in the present. Strategic vision and development change were other areas where the heads would like to allocate more time. This follows findings by Early et al. (2012; 2013) in the UK, which found that operational issues, such as student pastoral care and discipline issues, contact with parents, and teaching staff well-being, took up most of the heads' time.

### **Leading and Delegating**

Heads' attitudes towards leading seemed to be constructive and empowering. They were very much aware of the need to work with human resources, from the SMT to educational personnel, secretaries, and maintenance staff, with most emphasising that they try to make the best use of their staff.

Heads used various skills and leading styles adapted to the tasks and responsibilities at hand. They indicated that there were times when they let proficient staff members lead in their areas of expertise, such as promoting and identifying ways to use digital tools in class. Headteachers did not abdicate their responsibility; instead, they provided an empowering environment in which others could contribute. This is in line with the literature on shared leadership and the importance of showing trust in the competence and commitment of staff (see Moos, 2012). Maltese headteachers considered delegation



of work or shared leadership vital as they felt that they could not accomplish every task independently. Their general work pattern was one which MacBeath et al. (2012) called “intensification”, where there was “increasing pressure to do more in less time, to be responsive to a greater range of demands from external sources and to meet a greater range of targets, accompanied by impatient deadlines to be met” (p. 422).

The responsibilities delegated included administration and management tasks, such as covering lessons for absent staff and those related to teaching and learning, class visits, and strategic vision setting and implementation, such as coordinating the SDP work. Where appropriate, tasks were usually delegated to middle management, such as assistant heads and HODs (subject leaders). Such delegations were considered essential for sustainable school improvement, as leadership was supported and shared amongst several stakeholders. Hallinger (2012) and Earley (2013) discuss this need for delegation.

Trust, proficiency, collegiality, and collaboration were frequently mentioned in the delegation of roles and responsibilities; however, one distinct difference observed was the level of control heads exercised when overseeing such delegation. A few mentioned that they had to review extensively specific tasks as, ultimately, they were responsible. Others saw this as an opportunity to learn about new things from other staff members as they considered themselves “a leader of leaders”.

An interesting aspect not fully addressed in the interviews was heads’ interaction with the people they delegated responsibilities to. Studies indicate that individuals delegated

to felt the need to “request acceptance” and sought feedback and reassurance from the principal as an authority figure (Moos, 2012, p. 35). Further research is needed to get a clearer picture of the heads’ communication with others and the extent of their influence. Frequently the heads believed in and trusted the proficiency of their colleagues; however, the degree of control still seemed a very personal aspect of leadership.

All the above points mentioned, particularly delegation according to expertise, point towards distributed leadership. However, as Silox et al. (2015) outline, there is a fine line between delegation to carry out specific tasks and distributed leadership. The difference between distributed and delegated leadership is that delegation implies assigning responsibility, whilst distributed leadership is seen as building on the professional capability of staff (Silox et al., 2015). A few Maltese heads still seemed to maintain a relatively higher level of control and focused more on delegating administrative tasks and roles rather than distributing leadership.

## ***5.22 Technology and School Leadership***

Digital tools found around schools fell under the head of schools’ responsibility remit, even if they had been obtained or installed through government tenders and applications. Such tools ranged from the teaching staff’s laptops for teaching purposes to telephones and CCTVs. All the tools, directly and indirectly, impacted the schooling and learning process; however, it was unclear whether these tools had enriched it, transformed it, or just reinforced existing structures. A better understanding can be gained by grouping the

tools according to the school organisational categories. The categories are *structures and social systems, purposes, and people*, as shown extensively in Jameson (2013).

### **Structure and Social Systems**

*Structure and social systems* address the organisational set-up, infrastructure, and operations management within Maltese schools. As Jameson (2013) outlined, this category focuses on the elements that support schooling whilst maintaining management and quality assurance for school improvement and change. The type of technology one finds falling within this remit is:

- i. *Technology for the management of the school premises.* This ranges from environmentally friendly technologies such as solar panels to tools related to maintaining order, safety, and security within school premises. Such tools include electronic school bells, electronic school gates, and CCTV around the school premises. One also finds tools for improving internal communication, such as phones and the Internet.
- ii. *Technology for schooling organisation.* Tools included here focus on the organisational structure of the scholastic year and school day. Such tools and software are used to create school timetables, class listings, teacher replacements, classifications, and student attendance. These are usually carried out with software that headteachers are usually trained to use. These tasks, responsibilities, and decision making have remained consistent throughout the years, even if the technology has not. Another area under this umbrella term is the *management of school data*. This refers to financial management and student information data, from

personal details to assessment, usually done through an electronic platform such as e1 or Fronter (recently updated to MySchool). The integration of such data into one system facilitates the management of resources within one set-up.

This area was given high importance by the heads, who felt they could carry out one of the key organisational systems within the school (timetable) very efficiently and effectively through these tools.

### **Purpose**

Jameson (2013) intended *Purpose* as the meaning-making aspect of e-leadership, which incorporated vision and strategic planning. Purpose addresses the leadership aspect of the learning and teaching category and the headteacher's role as a curriculum leader. Although Maltese headteachers believed that they did not allocate sufficient time to this area, they still considered themselves essential influencers in technology uptake, whether indirectly through their role modelling or directly through promoting a vision for digital tools uptake.

- i. *Technology for teaching and learning*. Maltese heads referred to hardware and software available to teachers and students to facilitate teaching and learning. Educational digital tools included the teacher laptops, class all-in-one computers, interactive whiteboards, along with other software such as apps and interactive learning material used in the classroom. One could also include the BYOD, which students could use for their learning.

- ii. *Technology for vision setting and implementing.* This covered the generating and sharing of vision, implementing, researching, and evaluating change for the whole school community. Heads mentioned word processing, data processing, presentation software, and research software such as SPSS, Survey Monkey, and Google Forms. Many of these tools are multipurpose, with their functions overlapping with other uses.

### **Technology for People Engagement and Presence**

*People* relates to the organisational culture and human relationship aspect of leadership, including communication, building trust, collaboration, and collegiality (Jameson 2013). It covered leadership presence where leaders make themselves available, empowering people and providing clarity and direction. Digital tools mentioned by Maltese headteachers ranged from essential emails to share documents for collaboration on tasks and responsibilities, social media and apps that facilitate communication and contact with the various stakeholders within the school community.

### **5.23 *Summing Up***

The overall findings indicate that Maltese heads extensively used technology, especially for the *structure and social systems*, followed by *people* and subsequently *purpose*.

Several key points arose from this study:

1. The neo-liberal language of performativity, namely efficiency, precision, accuracy, transparency, and accountability, was mentioned frequently by Maltese heads when referring to digital tools and associated tasks.

2. Digital tools were being used mainly to maintain the accepted structures and rules for organising the work of teaching and learning, such as regulated practices of splitting time and space, classifying students, allocating classrooms, and dividing knowledge into subject areas. This confirmed that digital tools reinforced the ‘grammar of schooling’, which was taken for granted, internalised, reproduced, and adhered to by those working within school settings.
3. Maltese heads believe that digital tools support student entitlement and more personalised learning opportunities as they have made more complicated school processes possible. For example, timetable software made extremely complicated arrangements possible.
4. Maltese heads used digital communication tools for ‘leadership presence’ and the school community’s pastoral needs. Various digital communication channels were mentioned, especially email, SMS, and web chats.
5. Although heads used digital tools extensively for managerial, administration, communication, and working with people, there was scope for development. One area was integrating digital tools into leadership practices, such as stakeholder input into decision-making, change progression and evaluation, integrating student data with school improvement plans, and promoting school activities through social media. Some heads had made attempts in this area; however, many had not.

### **5.3 Changing Roles and Dilemmas**

The headteachers' narrative around digital tools kept getting intermingled with the experience of technological dilemmas, which is explored in the final two research questions:

- *Is technology changing the role and tasks of the Maltese head of school, and if so, how?*
- *What opportunities and challenges are heads of schools identifying regarding their use of technology in their leadership practices?*

#### ***5.31 Safety of Dataveillance?***

Technology primarily reflected the pressure for performativity, efficiency, and immediacy of processes and procedures, with an ever-increasing focus on audit culture that leads to an abundance of documents, whether video recordings, spreadsheets, test scores, school calendars, minutes of meetings, What's On memos, etc. (see Kupchik & Monahan, 2006).

Dataveillance, meaning discipline and surveillance, is another example of where tools have integrated into the existing school ecology. Safety, security, and surveillance are increasing concerns for heads, and all state schools have electronic gates at the school entrance and CCTV placed strategically around the school to keep students and teaching staff safe whilst maintaining order within the school premises. Such CCTV cameras present around school corridors are believed to be a valuable tool to maintain and check student discipline, such as fights, bullying, and other abuse or breaking of school rules.

Although the heads occasionally mentioned such tools, they were only referred to occasionally and mainly for discipline reasons, thus confirming their role in evidence gathering, control, and disciplinary discourse. Hope (2009) sees this as a discipline shift from social integration based on personal control to a systems integration based on digital situational control.

One particularly interesting situation mentioned by a headteacher was police officers accessing school surveillance cameras to check up on a disturbance outside school premises beyond school hours. This indicates that technologies within schools are being used for ulterior purposes. It also indicates that school technologies are not only relevant for the macro, meso, and micro-levels of school influences but also impact exo-systems beyond the school boundaries. There is a broader issue here in how the volume, variety, and velocity of data that technology produces is influencing organisational practices (Laney, 2001) in positive and negative ways.

### ***5.32 Autonomy or Control?***

Some tools are imposed on schools by the macro-level of the schooling structures. The tools are purchased usually via tenders and allocated to the schools. Decisions about which tools to purchase are usually decided by policymakers, with little contribution by the school leaders themselves. Understandably, economic reasons prevail in buying equipment, school management systems, and software. It could also indicate that through the narrative of efficiency and standardisation, the centrality of authority, power and control is being maintained (Griffin & Andre-Bechely, 2008).



However, digital tool uptake is a rather personal decision. School leadership and teaching staff tend to use those tools they know, feel competent in, and apply to their daily professional lives. Usually, they are extensions of their personal life applied to their professional life and vice versa. This was mentioned by a few heads who modified some practices because of outside policy; for example, using Google Sheets had to be stopped due to legal constraints and was not needed to adopt the school management system. However, some still used Google Sheets related to QR codes and demonstrated resistance to dropping its use. Indeed, an imposition from beyond the school left heads feeling frustrated and confused.

Mixed messages seemed to arrive from departments, addressing different issues and concerns. The impression I got from the heads was that policymakers had little awareness of what occurred within schools due to poor communication. The one-size-fits-all approach limits innovative practices and the risk-taking of some heads. The policymakers saw technology uptake as something to be handed down hierarchically when the reality was that heads needed to adapt to circumstances. The top-down approach limited flexibility, risk-taking, and innovation, which is another indicator of the hierarchical Maltese structure indicated previously (Bezzina, 2019; Mifsud, 2015).

### ***5.33 Exo-System Interventions or School-Based Policies?***

Headteachers who were curious and flexible listened to their staff and worked on identifying school-based policies such as BYOD for teaching and learning. Some

schools developed practices through staff training and participation, often accepting that such practices take time to embed. One head mentioned that it took up to three scholastic years before all teaching staff used certain systems efficiently.

However, there were contexts in which most heads were hesitant. For example, most had doubts about introducing BYOD to school and would not do so without clear direction from the Department of Education on its use. This hesitance was due to several reasons: fear of the unknown, fear of legal issues, worries about maintaining the order and rules of the learning institution, and lack of knowledge of how these devices could be used for beneficial classroom purposes. This kind of reticence was a natural consequence of limited guidelines emanating from the Department of Education. While such attitudes were understandable, there was a danger that headteachers could be limiting teachers' experimentation with tools like tablets or smartphones for teaching and learning purposes, which could frustrate innovative teachers from experimenting with technology for pedagogical development and interaction in class.

Another key player in this policy-making narrative was the MUT, whose interventions had hindered headteachers from moving ahead with technology practices. This included using the learning platforms for internal communication and professional development plans. Headteachers were frustrated as they felt that the MUT as an external player had stopped steps that the whole school had agreed upon due to concerns about the impact such innovative practices could have on teaching staff tasks and time.

### ***5.34 Connectedness or Impersonality?***

Many headteachers spoke of the positive aspects of sending out emails with information and procedures to the staff. The fact that these could be sent out to all teaching staff and stakeholders instantly was considered positive and fast. However, some others addressed the issues of dehumanising and impersonality.

Headteachers commented that digital tools create disconnection, distance, and alienation. Whereas teachers requested special leave directly to the head face-to-face, this had now been automated. A headteacher would not know the reason for a medical appointment and did not establish personal connection and support through face-to-face interaction as verbal support was substantially reduced. This corroborates findings indicating that digital technologies have impacted what it means to be human while at school and produced shifts in the types of relationships within the school community (Selwyn et al., 2018).

Another aspect of impersonality covered the communication being sent from the Department of Education to the schools, often via long electronic circulars outlining and explaining processes. Headteachers remarked about the length and language used and its lack of connection with the imprecise, messy realities found within a school. Hassan (2016) labels this ‘digital intolerance’ where computer attributes clash with essential qualities that make us human.

Another aspect of the impersonality of technology was mentioned by one head who was left upset and feeling depersonalised with the way her superior used an email. This head mentioned how an email contesting a decision taken by the principal discussed at the school level was forwarded with no prior notification, higher up the chain of command to Director-General. The headteacher was left with a bitter taste as they felt it was a form of imposition and control intended to put them in a bad light. This situation indicated that what was written down could not necessarily be considered confidential or secure.

### ***5.35 Work Reduction or Intensification?***

Work intensification was mentioned numerous times by the heads. Work intensification is characterised by the need to work “at increasing speed, perform several tasks simultaneously, or reduce idle time” (Paskvan et al., 2016, pp. 125–126). This intensification was mainly due to the number of policies that had to be implemented and the demands of pastoral care for the students. In this study, heads all showed intense emotional and physical engagement with their work, going the extra mile when needed. Although such commitment is often considered admirable, it can result in impaired decision-making, health impairment, and motivational problems (Ballet & Kelchtermans, 2009; Paskvan et al., 2016; Franks, 2015). Heads felt conflicted about what needed to be done first, especially when balancing students learning needs and meeting external driven policies (Wood, 2019).

Digital tools were increasing intensity and anxiety for some headteachers, with many defining technology as “a knife which cuts both edges”, especially when raising the

negative implications of technology use in class. Heads could see that digital tools were needed and helped them be effective in their roles, but there were downsides. One key area was how technology and its 'efficiency' increased work for headteachers, as in the case of the number of timetables they needed to organise. The availability of timetable software has facilitated the production of timetables but not the decisions related to timetabling, which had remained and, in most cases, become more demanding.

Headteachers mentioned that whereas before, they used to develop one or two sets of options for older students, with the demand for addressing student learning levels, they now had to organise around four or more student pathways. Under the guise of addressing student equity and entitlement, headteachers' workload had increased substantially. Digital tools increased efficiency in working processes but had also increased the demands made on heads.

#### **5.4 The Concept of School e-Leadership**

This concluding section intends to put together the study's findings under the more specific title of school e-leadership. A school e-leadership framework is outlined to explore how far technology supports leadership, highlighting shifts in attitudes, feelings, thinking, behaviour, and performance. I provide a critical reflection on whether the changes brought about by digital tools are ultimately beneficial or harmful for the school organisation and stakeholders. School e-leadership is based on three essential features for understanding the concept within a practical and realistic school setting. These three elements which constantly interact and affect each other within the school ecology are:

1. The technology

2. The world of the headteacher
3. The consequences of technology use

### ***5.41 The Technology***

As outlined in the previous section, extensive digital tools are available within school settings. Most focus mainly on the organisational set-up and running of the school; maintaining order and control; for teaching and learning purposes; and, finally, leadership. When observing the origin of the tools, one notes that these were rarely developed with the school setting in mind. Most originated from wider business and workplace use and were subsequently adopted for the school settings, as with Microsoft tools like Word and Excel, CCTV cameras, and electronic gates. Some, however, were designed for school settings such as school management systems and platforms like MySchool, Fronter or the school timetabling software. The developers of such tools were aware of school settings and how these tools would be used. Although set with a school structure and organisation in mind, these tools still require updates and modifications to suit the school setting; for instance, the interactive whiteboards essential for teaching and learning came about due to new developments in the field.

Tool use was in flux as some tools were expected to be adopted, and others dropped. In Maltese state schools, it is strongly advised that only approved digital are used, resulting in the stopping of internally developed applications of tools such as Google Sheets to take up the new systems. This caused frustration and a sense of having to change just for change's sake. However, all the digital tools offered opportunities to improve the

learning experience within the school whilst offering leaders opportunities to communicate short-term goals and a long-term vision while providing efficiency.

### ***5.42 The World of the Headteacher***

That the Maltese headteachers' world is a complex and all-encompassing one may be noted throughout the thesis. Headteachers are naturally passionate about their schools and firmly believe in their role in furthering Maltese education. However, their world is stressful and could be overwhelming at times.

The head of school is seen as one of the key people for allowing and supporting the school's use and uptake of digital tools. They make decisions on: the tools used for information and communication, teaching and learning; which pedagogical aspects are affected by digital tools; how to elaborate school vision goals for the uptake of such tools for and beyond the classroom; and developing school policies for tool use. The list is endless. Heads are faced with continual decisions as to what to use, whether to continue to use it, and how to use these digital tools, whilst also factoring in the ongoing demands made by innovations from within the school and from outside.

Heads as decision-makers are the key mediator between digital tools and schools. Most Maltese heads had good competencies in digital tools but were not experts in the field. They had good intentions about learning to use tools if they were appropriate for their school system. However, the reality was of a fast-paced, multi-tasking context that hardly left them with opportunities to reflect on the tools available, how they could be

used, and their implications, let alone opportunities for their own professional development.

The headteacher is seen as the leader of leaders within the school and thus cannot work in isolation. They are educational leaders who could be technology leaders, yet not all technology leaders are educational leaders. Heads of schools are leaders of power and pedagogy, yet not essentially leaders of expertise in this digital context. Most Maltese heads tended to delegate roles and tasks to individuals within the school whom they deemed more knowledgeable, also in the case of digital tools. The reality, especially of digital technology uptake, is that it is rather messy, haphazard, and non-directional. Most technology leadership roles and tasks, such as disseminating educational tools or vision-creating for technology integration in the classroom, were carried out with the technology leaders in the school. Heads tended to support initiatives focusing on the quality of teaching by learning them and placing them in the context of a vision following discussions with school-based personnel. The reality is that the headteachers' leadership experience is one of ambiguity.

Although they are considered in charge and exercise power and control within the school, they are answerable to the principals and other policymakers. This mediation requires time to work through and can create stress. Indeed, the intensity of interaction has been heightened with digital tools, whether the phone, emails or video conferencing.



### ***5.43 The Consequences of Technology Use***

Digital tools assist the headteacher in their many tasks whilst helping them fulfil their role. Their use focuses mainly on the managerial and administrative aspects of running and leading a school, maintaining order and control, teaching and learning purposes, and leadership use. These various tools are seen as labour-saving tools that: support organisational tasks, maintain norms and rules through dataveillance, engage and empower learners, and influence and disseminate school leadership goals through communication, decision-making, and school-based collaboration policies and actions. What could be observed was that each school was balancing their use according to the headteacher's influence.

General school leadership classifications seem to imply that leading consists of several distinct roles. The reality for Maltese headteachers is that these roles are fluid and never-ending. Digital tools need to be extensively delegated amongst the various stakeholders within the school. This delegation is seen to support more inclusivity and participation in school action planning and implementation, which in turn empowers the schooling staff. However, the flip side is that these tools, in themselves, have control and surveillance purposes. Using the narratives of efficiency, accountability, transparency, health and safety, and security narratives, these tools are used as applications for maintaining order and control.

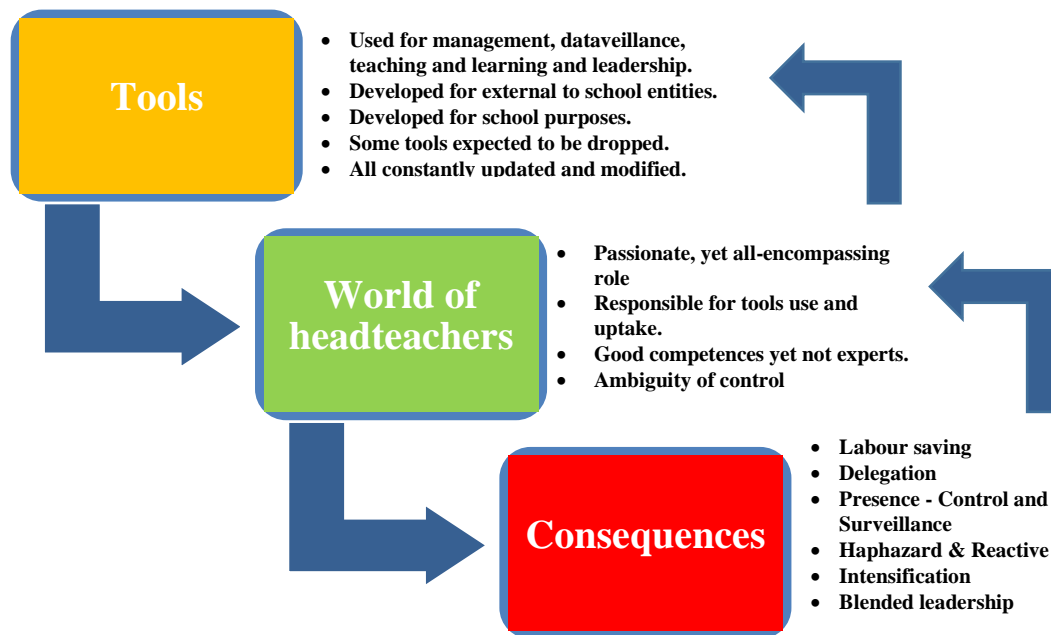
The use of technology within schools appears to be haphazard and largely reactive, and although much may depend on the headteachers' attitudes, experiences, and

competencies, it does not depend exclusively on them. The element of ambiguity mentioned previously could give rise to messy implementation as heads respond to outside influences rather than school-based demands. Maltese schools do not exist in isolation, and other external controlling structures and levels impact school leadership. Tools have changed how some tasks are done but not the objectives of school leadership. The wiring of organisations has not modified the leadership context. One example of this was a so-called ‘open-door policy’ in one school, i.e. educators could drop in to request something or explain something that had happened face-to-face. Now, this kind of interaction was more likely to happen online through emails and chat. Something is lost, but the goal of communication stays in place, just achieved differently.

Increased presence is another consequence of the use of digital tools. Digital presence is not exclusively relevant to the head of school but applies to all the other stakeholders. Through emails, synced devices, and social media presence, educators are constantly present, which undoubtedly intensifies the work of headteachers. They are finding it hard to set boundaries between work and rest as tools such as laptops were carried between home and school to allow continued work, further impacting Maltese headteachers’ well-being.

**Figure 5.1**

*School E-leadership Processes*



The relationship between technology, heads, and outcomes associated with technology is captured in Figure 5.1. Each element is influenced and impacted by the other two and vice versa. It is an ongoing process where a slight adjustment in one area could have implications in another. An update or modification in the technological tools for schooling purposes could result in further rationality in managing the school’s work whilst intensifying work.

### **5.5 What then is School e-Leadership?**

One well-cited definition is that e-leadership is “a social influence process embedded in both proximal and distal contexts mediated by Advanced Information Technology (AIT) that can produce a change in attitudes, feelings, thinking, behaviour and performance”

(Avolio et al., 2014, p. 107). This definition of e-leadership emerged from looking at virtual business teams located worldwide, which was then extended to higher education and virtual school contexts. Further studies on the subject resulted in revisiting the original term of this definition, extending the context.

When exploring digital tools and leadership within school contexts, e-leadership was focused on technology leadership, digital uptake for teaching and learning, and communication. It was rarely considered from the school headship e-leadership perspective, namely the school context's blended nature. Following the findings and reflecting on the e-leadership definition above, I was further convinced that the definition failed to capture my findings. This was not surprising as the original definition had been developed in a different context to the school setting. This leads to the following modifications.

First, the breakdown between proximal and distal contexts did not apply to schools' contexts as heads were working in face-to-face, virtual, and digital contexts. Maltese heads mentioned numerous occasions when face-to-face meetings were followed up through emails and where decisions were taken initially via an electronic platform were then confirmed and discussed in a face-to-face meeting. The development of ICT and the pervasiveness of the Internet confirm that "e-leadership is as much about blending technologies and traditional communication as it is about simply using more ICT-mediated communication" (Van Wart et al., 2019, p. 81). Blended settings, which are contexts combining face-to-face communication with digital technologies, have become the norm and are more useful than the proximal and distal concepts for the school

context. It also reminds us that there is now a lived, everyday reality of headship or leadership which means that the working context could not be disconnected from digital tools.

The second aspect which needs to be addressed in the definition is the redefining of the AIT part. The technology within school contexts is continuously developing, and tools are being adjusted to suit the school context. They may include things such as high-definition video conferencing and artificial intelligence tools. However, some very long-established tools are also being used and will continue to be used for some time yet. Hence, the definition should not be confined to advanced technology.

The third important feature to address is the neutral definition in Avolio (2003), which covers “changes in attitudes, feelings, thinking, behaviour and performance” but does not clarify how far the change should go or whether it is desirable. In the Maltese context, one could observe the desirable change with technology regarding achieving school goals and use in class. Some technology uses are simply necessary as they are labour reducing; however, other changes are unwelcome. Amongst these was the increased anxiety due to work intensification, impersonalisation, constant presence, and fast-paced communication. Such unwanted changes are rarely included in the discussion of e-leadership but need to be noticed.

Fourth, it needs to be emphasised that the goals and processes of leadership do not substantially alter with technology. Leaders still have the crucial tasks of creating shared visions, inspiring and empowering followers, and building trust while setting and

implementing school improvement. Perhaps we need a term such as *e-leadership* to holistically present the educational, emotional, and electronic aspects of using technology.

From the above points, a somewhat different definition of e-leadership is now offered:

School e-leadership uses a wide array of tools developed for school contexts and beyond. Such tools assist goals and processes in maintaining good practices whilst improving the organisation, leadership, and learning contexts prevalent in schools. Leadership assumes a blended context, a mix of face-to-face and digital/online settings. E-leadership aims to harness tools to improve the personal, social, and emotional work of the heads and all staff and mitigate the undesirable consequences of technology, including excessive surveillance and threats to well-being. The use of technology alters work patterns in school, often in helpful ways, but sometimes not. Still, the task of leadership remains substantially unaltered. The goal of e-leadership is to promote a critical view of technology that allows for reflection, monitoring, and time for embedding use. It requires a distributed approach as e-leadership cannot be the preserve of the headteacher.

## **5.6 Summary**

This chapter explored the findings arising from the study. An overview of the headteachers' personal and professional skills and competencies was given, followed by an outline of how technology was being used within the school context and several

dilemmas that arise from using digital tools. Next, an outline of e-leadership was developed by elaborating on three key areas: the tools, the world of the headteachers, and the resulting consequences. A diagram was developed (Figure 5.1) to explain the ongoing interaction between these three elements, making each school context unique.

Finally, an updated definition of e-leadership adapted to the school leadership context was provided. The new school e-leadership definition draws attention to the nature of the headteachers' work and the opportunities for improving school contexts through distribution and efficiency. This term can provide a focus for further action, not just present a description.

## **CHAPTER 6: CONCLUSION**

This concluding chapter summarises the key ideas behind my research. The five chapters are summarised, followed by the main findings and contributions to the field of study and the limitations and recommendations for further study. A personal reflection on my research journey concludes the chapter.

### **6.1 Summary of the Thesis**

In Chapter 1, the thesis framework was introduced, along with an outline of the Maltese state educational sector, where the study took place. Policy and administrative shifts over the past ten years resulted in governance and school leadership changes. Digital tools also contributed to shifts in schooling and communication processes, with the intention that these would also result in pedagogical changes within the classroom. Finally, the concept of e-leadership for digital virtual settings was presented.

Chapter 2 reviewed the literature about school management and leadership. A critical view of digital tools within schools was introduced, followed by a discussion on how these tools are believed to impact school management and school leadership processes. I outlined in further detail the concept of e-leadership, which was predominantly developed in virtual business and higher education environments.

Chapter 3 outlined the methodology used to conduct this study. The trail from the initial interest to setting the research questions was shown. Following this, the development of the interview tool, with the questions and guiding probes, was outlined. The Maltese



participants' background and context were introduced to give a clearer picture of the study's setting. Following this, the processes of transcribing and coding were covered. A framework for the narrative for the analysis was described.

Chapter 4 outlined the findings from the interviews. These are presented around the research questions about the impact of digital tools on the Maltese school context. Initially, heads' attitudes, perceptions, and uses of digital tools were presented in their professional and daily lives. This was followed by the headteachers' management and leadership roles, tasks, and vision for their school, people management, and instructional leadership. The concluding section outlined the role technology played in their headship role and their impact on their well-being due to work intensification.

Chapter 5 addressed the implications of these findings to answer the research questions. The first three sections addressed: the headteachers' attitude, training and use of technology; the headteachers' vision of school management and leadership with an extensive discussion of how digital tools were impacting their professional lives; and how digital tools were seen to be changing roles, tasks, and lived experiences. The final section centres on applying the findings to the concept of school e-leadership.

## **6.2 Findings**

The findings from this study are framed within the research questions discussed throughout the study.

1. Who are the school leaders, and what do they do?

Findings outline the intense daily professional reality of the Maltese heads of schools. These continuous ongoing demands ranged from tasks related to administration and management to leadership work processes, including maintenance of order and routines, vision setting, professional development, promotion of well-being and pastoral care. Demands for accountability and efficiency tasks were seen as having increased, thus impacting work intensity. All heads commented that they were spending too much time dealing with immediate problems and not sufficient time on longer-term leadership priorities, such as curriculum and pedagogy work. This is in line with previous findings, which outlined the danger of accountability and efficiency taking over the leadership aspect of school headteachers (Bush, 2011; Fullan, 2007; Hattie, 2015; OECD, 2016; Sahlberg, 2010).

2. What are school leaders' personal experiences, attitudes, and perceptions towards technology?

When discussing their relationships with technology, heads were engaged with digital tools in their personal and professional lives. They were characterised as inventor, curious, and functional categories in the workplace. This is resonant with Rogers (2003) in his work on the diffusion of innovation. Other findings mirror previous research that heads with positive attitudes towards technology were more likely to integrate digital tools for information, productivity, and instructional practice, which in turn increased their competencies and computer tasks (Afshari et al., 2009; Felton, 2006; Otto et al., 2002; Schiller, 2003).

3. How is technology being used for management and leadership in school, and what changes are triggered by the use of technology?

The impact of digital tools on heads was noticeable throughout the research. Digital tools supported the everyday work of headship by facilitating managerial and administrative tasks such as timetabling and assessment data handling. However, the use of tools for leadership school improvement was relatively limited, albeit several heads of schools were supporting the uptake of technology for teaching and learning. Some more inventive headteachers had embedded aspects of digital tools into school processes to improve access to information, immediate reporting of school issues and even research. However, the overall picture was that even when the head had been trained in digital tools, they still required time to integrate these tools into practice (Mrazek et al., 2005). All the above findings are in line with previous research.

4. What do school leaders see and report as difficulties/opportunities in using technology for leadership practice?

The findings draw attention to the dilemmas faced by the heads of schools with using technology. These dilemmas concerned administrative and managerial uses of technology and those related to personal well-being. Digital tools within the school created a concerning situation of dataveillance for all individuals in the school. Tools usually used for discipline and safety could be used to observe and identify other behaviours unknown to stakeholders. External stakeholders, mainly police, used tools meant for school use to observe and identify possible illicit behaviour around school premises. Although this was seen as a valid application of technological resources, this was impinging on the heads' time.

Headteachers raised the issue of autonomy and control over technology as they could see school management systems, software, and technology to support classroom learning as mandated by the Department of Education and, by extension, the Maltese state.

Although this top-down approach brought logistical and data protection advantages, it limited personal choice. Furthermore, some heads started to work on bottom-up innovations using technology, but most were reluctant to do this without direction from the Department of Education. Headteachers could report cases where work had stopped innovation due to departmental or teacher union intervention.

The effect of technology on well-being and work processes was emphasised in this study. A key aspect of this was work intensification due to constantly being online and dealing with prompt responses and immediate action expectations. Another important issue was impersonalisation. Although digital tools were believed to increase communication and togetherness, due to the fast transmission of emails, such communication could be forwarded to anyone. Moreover, information was being communicated at length via email without questions or opposing points of view being given. Overall, digital tools increased work intensity and some headteachers' anxiety.

When analysing the overall findings and comparing them with the e-leadership concept within schools, certain points were stressed. Digital tools and technology use led to a hybrid scenario for school leadership; one with a blending of traditional face-to-face leadership and communication at a distance. While the process for school improvement

remained the same, digital tools added another level of opportunity and complexity, namely educational, emotional and electronic leadership.

### **6.3 Contributions**

This thesis contributes to the literature by capturing the lived world of headteachers, who are surrounded by digital tools. It presents an in-depth narrative of what is happening within Maltese schools from the heads' perspective and how digital tools impact their decision-making, the way they lead their schools, and the consequences of their use.

One clear outcome of this study is that despite the uniformity of the schools selected, each of them exhibited a diverse digital tool uptake for leadership purposes that depended on the leaders. This indicates that digital tools within schools offer possibilities framed by context. The study then shows the interrelationship of different layers within a school system and how stakeholders interact and influence each other. The study also shows how digital tools have facilitated or hindered communication.

The study also enhances the understanding of the nature of headship in the specific context of Malta. It adds to the local literature and can provoke a debate on improving existing practices and processes. By focusing on the perspectives of heads of schools, it becomes clear that a more critical discussion of technology use needs to take place. Heads would benefit from a greater awareness of the range and designed purpose of tools and training in skills. Sometimes heads are not aware of further opportunities and

applications of technology beyond schooling and administration. How to use technology for school improvement and change remains an area to be addressed.

Finally, the study elaborates on school e-leadership by showing how existing definitions do not carry over into a school context. A new definition of school e-leadership was provided, showing the blended nature of leadership, the mix of tools used in school and the varying intentions and consequences of use. Work on this concept is incomplete, and further studies can enrich and extend our understanding of e-leadership. Here is an opportunity to bridge the gap between theoretical understanding and practical application.

#### **6.4 Strengths and Limitations**

Research limitations were still present despite the best intentions and every attempt to formulate a valid, reliable study. These shortcomings mainly concerned the cohort of participants, context, and methodology.

The first limitations are those concerning selecting the participants and context. As already indicated in the methodology section, heads of state schools were selected to reduce focus on the technological tools and software diversity and emphasise the educational school leadership element. This meant that heads of the church/independent sectors were directly excluded from the study. Hence, conducting a study that includes this cohort could extend the scope of the research findings.

The context of the study, namely that of being held in a small island state, could create certain restrictions. Maltese state heads are responsible for the school's running, including dealing with maintenance issues, finances, transport allocation, vision setting, implementation, and curriculum leadership. This requires them to be generalists in all the above areas, yet not necessarily specialists in specific educational and curriculum leadership. This reality might apply to small nation-states yet is not necessarily transferrable to other realities and contexts. A further aspect is that the Maltese school network set-up, with leadership by college principals, could result in particular and distinctive influences on leadership.

The methodology selected, the interview, was the best fit for the research questions and the exploration of the e-leadership concept. Although questions were structured around key areas, maintaining the flow, the discourse, and the reflections throughout was considered more important by the researcher than keeping close to the specific set of questions. Although this may be seen as a limitation, it could also be considered a strength due to the flexibility demonstrated by the researcher.

Other challenges arose, namely due to the bilingualism of the Maltese. Malta, as explained earlier, has two national languages, Maltese and English, and it is quite normal for individuals to switch between the languages when discussing and elaborating. The issue mainly arose during transcription, where there could have been miscommunication issues and possibly a lack of clarity when translating and coding. Again, this is considered a limitation; however, it could be a strength as it is a study in a mixed language setting.

For focus and clarity, the study only addressed the heads of schools' perspectives and did not necessarily reflect the reality of other stakeholders. I was aware of this limitation and concerned about it when developing the study methodology. Including other levels and perspectives in the study could have generated different themes and possibly a more holistic understanding of technology use. An alternative approach could have been a school-level case study that examined all stakeholders' technology perspectives.

The timing of the study could also have influenced the heads' responses. All interviews were held within a six-week time frame. Most interviews were held during the mid-yearly or following the mid-yearly exams, a scholastic phase which, although requiring extensive organisation, is a calmer phase that gives the heads some breathing space. Holding this interview at other times of the year could have possibly increased stress and different responses and, subsequently, themes.

The reality presented here was that prevalent two years before schools' closure due to COVID-19. The present situation is potentially different, considering that most schools have converted to virtual schooling. The exponential learning curve all levels of education have had to go through has markedly impacted Maltese heads and e-leadership contexts. Since this study, drastic upheavals have occurred worldwide that have impacted the discourses of school systems, learning methods, technology use, school leadership, and e-leadership. COVID-19 has hugely accelerated the adoption of digital tools within education. The sudden digitalisation to move to online learning has resulted in the urgent uptake of digital tools, especially for online teaching.



School closures due to COVID-19 created diverse realities and dilemmas for all. Heads of schools, like teachers, had to adapt to the sudden transition to online schooling. This resulted in a huge learning curve, especially as physical presence needed to be translated into virtual presence. E-leadership scenarios had to be adopted to ensure the quality of teaching and learning, community support, and morale in a time of chaos. Leaders needed to learn and integrate their technological tools and skills for management, administration, and especially leadership. It would be interesting to study whether digital tools for leadership purposes were due to the greater readiness to use them to adapt to the online learning situation.

## **6.5 Recommendations**

Findings in the study outlined the extensive use of digital tools in school leadership contexts. It is one of the few studies addressing e-leadership in school systems, providing a narrative of headteachers' lived experiences with digital tools and implications for management and leadership. Several recommendations arose from this study that are a combination of practical and research suggestions.

### ***6.51 Practical Recommendations***

One key characteristic of Maltese headteachers across all the interviews was the intense passion and sense of belonging to their school. All demonstrated a firm belief in the importance of their role and worked tirelessly to provide the best possible learning opportunities to students. This translated into their encompassing visions for the schools

they led. Although commendable, headteachers must take care of their physical and mental well-being to continue with their duties.

Educational leadership is stressful. Heads mentioned various internal or external stressors, which they constantly face due to their role. Throughout the interviews, digital well-being was frequently mentioned as related to the sense of immediacy these tools generate. Having professional tools blended with personal use, like smartphones or smartwatches, resulted in severe encroaching of work into personal life. The separation between work and personal life was essential for professional well-being. Future research could address these issues, and heads should access appropriate professional training and support. While digital tools facilitate laborious processes, they can also intensify work. So critically reflecting on what needs to be achieved, which tool best fits to attain this goal, and the time required to do it is essential.

Awareness of the people behind the screen and the concepts of impersonalisation and dehumanisation need to be addressed. The immediacy of communication transmission, such as email, results in forgetting the human behind that communication. Further exploration of these concepts is essential, especially within humane settings such as learning institutions. Practices mentioned in the study impact the emotional and mental health of the individual whilst affecting occupational engagement and satisfaction.

Being critical about the use of technology within schools is essential. Digital tools are constantly updated, with new tools becoming available every day. As a leader, one needs to be aware that not all digital tools are essential tasks. One needs to be critical about

whether these tools address the needs and requirements for administrative and leadership tasks and whether they improve processes. Likewise, not all educational technology is beneficial to the classroom. Digital tools for teaching are personal, and they should be adopted and integrated according to one's teaching style and subject.

Professional development for headteachers should be considered within two contexts.

The first context is school e-leadership contexts, which consider the various tools available from outside or within schools and their numerous applications to the school setting. Such professional development would also provide awareness, knowledge, and leadership competencies and skills for working effectively within blended school environments. Such development opportunities would also provide the headteachers with enough time to plan, reflect, and exchange good practices with others. An essential aspect of the development considers consequences, including digital well-being.

The second area for professional development occurs within the school context, where the head of school and educators initially assess the technological tools present within the school, their various uses, and the implications for their professional and personal lives. Such professional development would ultimately make a school more informed, allowing for decisions that increase school leadership, ethos and well-being.

### ***6.52 Policy Recommendations***

A few policy recommendations need to be considered, ranging from communication between the directorate and schools on digital processes and the right to disconnect. The

first policy suggestion is to improve communication between the Department and the schools, especially between education officers, heads of schools, and educators. Sending long emails and circulars gives an impression of a top-down approach between the macro, meso, and micro-systems in education. The way information is concise communication with requests for feedback. Suggested actions need to be followed up with face-to-face discussions and reflections.

Digital safety and etiquette need to be extended across the educational system. Technology is efficient and effective, yet one needs to keep in mind that there are individuals behind the screen. It is very easy to fall into 'screen vision perception' by forwarding emails without considering the implications this could have on an individual. Such awareness guided by training and even consideration of legal implications must be addressed.

The right to disconnect needs to be addressed across the educational sector. Most headteachers have work software synced to their personal mobile. This makes them accessible 24 hours, creating a constantly connected to work reality. Making all aware of the importance of leisure time and the right not to check in with work-related updates constantly would potentially help reduce the feelings of guilt associated with switching off.

### ***6.53 Research Recommendations***

Some specific research recommendations for more qualitative research are action research and ethnography. As a researcher in the field, this study made me even more aware that a good theory emanates from practice. My suggestions here lie mainly in the leading of schools. Further exploration is required into the terms blended digital leadership or e-leadership. Such research should ask whether e-leadership and/or blended school leadership require distinct characteristics, skills, or attitudes compared to face-to-face leadership.

The interactions and impacts of the various influencers present within the school also need to be explored. I mean here that the school headteacher is the leader of leaders. Some are technological leaders, some are pedagogical leaders, others are extensive users, whilst others are emotional leaders. Their influence and interactions are frequently mediated through leadership via technology. The consequences and implications of this process need to be observed as it provides further suggestions on how to improve school ethos and school climate. One research approach to consider is action research on improving processes such as delegation, collaboration, and cooperation in the blended leadership environment. Another area that needs to be further explored is school leadership's ecological systems and processes through digital tools. An exploration into how leadership vision is being impacted, shaped, and formed at exo, macro, meso, and micro levels is important. Identifying the interdependent relationships and perceptions of the individual players will provide an added layer to leadership vision setting whilst contributing further to the school ethos and climate research.

COVID-19 has modified the leading and learning school landscape. Aside from researching the impact of COVID-19 on heads' uptake and adoption of e-leadership, a further study needs to be conducted on which aspects of the COVID-19 reality should be integrated and maintained once physical in-school teaching returns. This research needs to address the effective technological tools, which elements need to be put aside, and which aspects of online schooling should be maintained and upgraded. Most online school challenges were dealt with efficiently, mainly due to effective teamwork in a virtual environment, with various forms of leadership being shown and taken up at diverse levels.

Research into digital well-being and the digital consequence on human resources also needs to be addressed. Key findings which struck me were those relating to the impersonalisation and dehumanising elements some headteachers experienced due to the immediacy of transmission of digital tools. These situations have implications for the affective dimension of headship, apart from well-being, emotional, and mental health implications, creating issues for schools' ethos and climate.

Further research in school leadership and digital tools is essential, especially with the ever-changing realities resulting from the ongoing development of these tools and even more so due to changes in practices due to the pandemic. This reality indicates that e-leadership for school leadership is now a more tangible and plausible reality; one which ultimately causes a direct or indirect effect on learning and well-being.

## 6.6 Concluding Personal Reflection

Oh, what a journey! This is what immediately cropped up in my mind when addressing this concluding section. A life-changing journey whilst life was changing at an even faster pace.

At the start of this academic journey, my view was that technology saved time, increased efficiency, and maintained safety and order within the school. I believed that their labour-intensive mechanisms were essential for the smooth running of the school and for implementing changes. However, I was also aware that school was about efficiency, accountability, and humanity. Following this journey, I still consider myself an eager engager with technology; however, I have become substantially aware of the overload of digital labour that intensifies work and the ever-increasing focus on accountability and efficiency. I am very much aware of the ongoing critical reflective work which needs to be done before using any digital tool, especially for leadership purposes. One needs to consider the goal one needs to achieve, the best tool for reaching that goal, and the other individuals in the process. If school leadership is about influencing and bringing about change, digital tools must be included in this process.

The academic journey helped me reflect even more on the importance of transparency of communication in writing. The methodology section, in particular, made me realise that explaining every step was essential. I learned that real-life research is not straightforward, and life is a messy reality of imperfect humans and organisations, often

with the best intentions. Thus, the emphasis of my study needed to be more on the journey rather than just the outcome.

On a professional level, this journey led me to take more risks in thinking and acting outside of the box, especially if these risks could improve processes and practices within school settings. During my PhD, I was asked to transfer to a new learning programme that was being set up. It was a risk; however, it gave me the freedom to put forward and undertake innovative proposals, even with the use of existing digital tools to lead and support the vision. One example was where digital tools such as Google Forms and Microsoft Teams were used to elicit proposals and suggestions from stakeholders to improve the learning programme.

This journey was a lengthy, arduous, and emotional one. It was challenging balancing work with my studies, family responsibilities, and health issues. It was a journey of perseverance where I had to dig deep to keep going in my personal life many a time. At the end of this journey, I can say that it has made me a better person, a growth built on determination, resilience, care, love, and support. As we say in Maltese 'Dak li ma joqtolx isemmen!' That which does not kill you makes you grow stronger!



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# APPENDIX 1: INTERVIEW GUIDELINES & CONSENT FORMS

## Information for Participant in a PhD. Research Study University of Warwick

### The Use of Technology by Maltese Heads of Schools Sylvana Zammit Pulo

Dear Head of School,

You are kindly being asked to participate in a PhD research study about the use of technology by Maltese Heads of School. This study will research Heads of Schools working within the State Middle and Secondary School Sector. Technology use has increased exponentially, resulting in changes within the education sector not only in teaching and learning but also in the way schools are being led. The way technology is being employed by School Educational Leaders, in which ways and any possible effects this is having on their roles and tasks will be explored. Results of the study will be forwarded to you on completion of studies.

If you agree to participate in this study, you will:-

- Be contacted to fix a time and date for the interview
- Be asked to sign a written consent form
- Be asked to participate in an interview lasting about an hour. Appointments will be set according to your availability.
- Be given an indication of the key interview sections and questions.
- Be asked to present any samples/experiences/ways of working with technology in your role as Head of School
- Be recorded for transcript purposes.

#### **Confidentiality**

This study is anonymous. I will not be collecting or retaining any information about your identity.

The records of this study will be kept strictly confidential. Research records will be kept in a locked file, and all electronic information will be coded and secured using a password-protected file. Recordings will be used for educational purposes only and will be erased/destroyed after confirmation of the degree. I will not include any information in any report I may publish that would make it possible to identify you.

#### **Right to Refuse or Withdraw**

The decision to participate in this study is entirely up to you. You may refuse to take part in the study at any time without affecting your relationship with the investigator of this study. You have the right not to answer any single question, as well as to withdraw completely from the interview at any point during the process; additionally, you have the right to request that the interviewer not use any of your interview material.

Should you have any questions about the research study prior to its commencement, you are kindly requested to contact me on the above email so that a phone call can be arranged.

Thanking you in advance for your support and assistance.

Sylvana Zammit Pulo

# Consent Form for Research

**PhD. TITLE: The Use of Technology by Maltese Heads of Schools**

**Research Being Undertaken At: University of Warwick**

**NAME OF RESEARCHER: Sylvana Zammit Pulo**

I confirm that I have read and understood the information provided for the above-mentioned PhD study and that I have had the opportunity to ask any questions about the research that I may have. Further, I have been given an outline of the questionnaire, which I may keep for my records.

I agree to take part in the above study and am willing to have my involvement in the interview noted. Furthermore, I have additionally agreed to have the interview electronically recorded.

I understand that my information will be held and processed to be used anonymously for internal publication for a PhD project, to be submitted for assessment for a PhD degree. I also understand that such anonymous data may be used for future research, including that for publication.

I understand that my participation is voluntary and that I am free to withdraw at any time up to the submission of the dissertation without giving any reason and without being penalised or disadvantaged in any way.

Name of participant ..... Date.....

Signature .....

## APPENDIX 2: INTERVIEW GUIDE

### Research Title: The Use of Technology by Maltese Heads of Schools Questionnaire – Part 1 (to be completed by Head of School)

#### SECTION 1

##### *Personal Demographic Information*

Kindly mark the statement that best reflects you and/or complete as required

1. How long have you been a Head of School? \_\_\_\_\_
2. What is your gender? \_\_\_\_\_
3. What is your age? \_\_\_\_\_

##### *Personal Academic & Professional Information*

4. *What is the highest education degree you have obtained?*
  - a. Doctorate, Ed.D or PhD (Level 8)
  - b. Master's Degree (Level 7). Specify area  
\_\_\_\_\_
  - c. Bachelors of Education/ Post Graduate Certificate in Education (Level 6)
  - d. Other. Specify area  
\_\_\_\_\_
5. *Highest Educational Leadership/ Administration Qualification Obtained*
  - a. Doctorate, Ed.D or PhD (Level 8)
  - b. Master's Degree (Level 7).
  - c. Post Graduate Diploma in Educational Administration and Leadership (Level 7)
  - d. Other. Specify area  
\_\_\_\_\_

6. *How long have you been a Head of School?*

- 1 – 5 years
- 6 – 10 years
- 11 – 15 years
- 16 years and over

#### SECTION 2

##### *School Information and Statistics*

7. College \_\_\_\_\_
8. Name of School \_\_\_\_\_
9. School Type \_\_\_\_\_
10. Student Population for 2017/2018 \_\_\_\_\_
11. Number of Personnel working within the school under your responsibility –
  - i. Assistant Heads - \_\_\_\_\_
  - ii. Head of Department - \_\_\_\_\_
  - iii. Teachers - \_\_\_\_\_
  - iv. Learning Support Assistants - \_\_\_\_\_
  - v. Administrative/Clerical Staff - \_\_\_\_\_
  - vi. Cleaning & Maintenance Personnel - \_\_\_\_\_
12. How many are
  - i. Shared Teachers - \_\_\_\_\_
  - ii. Shared Learning Support Assistants - \_\_\_\_\_

## **Questionnaire – Part 2**

### **SECTION 3**

#### ***Head of School Personal School Vision, Duties and Responsibilities***

*This section is intended to provide the researcher with a personal view of the Head of School's perspective of school ethos and the vision for their school whilst addressing the strengths and areas for development. The focus will be on Head's various tasks and duties and the time taken up addressing the key areas throughout the week.*

13. What are your main duties and responsibilities as Head of School? Would you be able to give an indication/ percentage of the time you spend on key tasks throughout a working week? Throughout a scholastic year?
14. Briefly describe your school.
15. Briefly describe your vision for your school and the school's ethos and climate?
16. What do you consider to be you school's areas of strengths and areas for development?

### **SECTION 4**

#### ***Head of School's Personal Perceptions of Technology Competences, Knowledge & Skills***

*This section intends identifying the Head of Schools personal definition of technology as well as their perceived competencies and skills. Their use of technology in their daily life will also be explored.*

17. What is your personal definition of technology?
18. How would you describe your level of technology competence and skill?
19. Do you use technology in your daily life? How?
20. Have you ever received any Technology and/or Information & Communication Technology Training? If yes, what kind of training?

### **SECTION 5**

#### ***Use of Technology in School by Head of School***

*Questions in this section intend exploring how technology has infiltrated in Heads of Schools professional life and how it helps or hinders their individual leadership practices, responsibilities, roles, and duties. Here the school leader will be encouraged to provide examples of samples of good practices adopted within the school whilst using technology.*

21. What is your view of technology in education?
22. In the Head of School's job description, the following duty is included. How do you feel about it?

“3.3 In the carrying out of his/her duties and functions, a Head of School shall be expected to develop the necessary knowledge, competencies and skills to be able to make effective use of information and communication technology.”

23. What technological aspects do you use on a daily basis in your role as a head of school to carry out your duties and tasks? Kindly elaborate by providing examples and samples
24. The application for the post of a Head of School identifies a number of key duties and responsibilities. Could you kindly elaborate further details and provide technological examples or samples as to how you, in your role, are using them. Could you quantify your time on your Leadership Duties? How much time do you spend in a week on the technological aspects of these roles? How comfortable do you feel with all these technological aspects?
25. Are there any other areas where technology is being utilised by the Head of School?
26. Do you feel that technology has changed the duties and role of the Maltese Head of School? If yes, kindly elaborate in which ways. If no, why not?
27. What would you consider to be the technological opportunities and constraints in your leadership practice?
28. As a Head of School, do you feel that you require or have received sufficient training in the use of technology for school settings?

***Closure***

Any other comments or feedback you would like to give about the research study and/or your leadership practice?

**Thank You for your Time!**

## APPENDIX 3: INTERVIEW PROMPTS

### PhD Questionnaire – Part 2

#### SECTION 3

#### *Head of School Personal School Vision, Duties and Responsibilities*

This section is intended to provide the researcher with a personal view of the Head of School’s perspective of school ethos and the vision for their school whilst addressing the strengths and areas for development. Time will be taken to focus on the Head’s various tasks and duties and the time taken up addressing the key areas throughout the week.

#### **Questions and Prompts**

Questions	Prompts/ Further Clarification
<p><b>13. What are your main duties and responsibilities as Head of School?</b></p> <p>• <b>Would you be able to give an indication/ percentage of the time you spend on key tasks throughout a working week? Throughout a scholastic year?</b></p>	<p>Categories of Duties</p> <p>a. Maintaining Positive Collegial Relationships</p> <ol style="list-style-type: none"> <li>1. Human Resources – Teaching Staff, LSAs, Clerical Staff. Maintenance and Cleaning Staff</li> <li>2. Student Matters – Dealing with Student Issues</li> <li>3. Stakeholders – Parents, Caregivers, College Staff, School Council, Others</li> <li>4. Superiors – Communicating with Principal etc</li> </ol> <p>b. Pastoral Care</p> <ol style="list-style-type: none"> <li>1. Dealing with Discipline Issues</li> <li>2. Working on Student Engagement and Motivation</li> <li>3. Dealing with Emotional Issues</li> <li>4. Working with other professionals within and outside the college.</li> <li>5. Involvement of guardians</li> </ol> <p>c. Curriculum Development</p> <ol style="list-style-type: none"> <li>1. Ensuring quality of teaching and learning within the school</li> <li>2. To implement holistic learning activities</li> <li>3. Implementing National Curriculum</li> <li>4. Ensure positive assessment policies</li> </ol> <p>d. School Vision and Development Planning</p> <ol style="list-style-type: none"> <li>1. Working on formulating and implementing the school development planning</li> <li>2. Ensuring collegiality</li> </ol> <p>e. School Administration and Finances</p> <ol style="list-style-type: none"> <li>1. Managing School finances and ensuring that procedures are followed</li> <li>2. Carrying out the annual school classification exercise</li> <li>3. Preparation of timetables, assigning classes, subjects and responsibilities’ to teachers</li> <li>4. Replacement lessons</li> <li>5. Maintaining school statistics, student and staff records</li> </ol>

	<ol style="list-style-type: none"> <li>6. Ensuring the proper maintenance and servicing of the school building facilities and equipment as well as cleanliness and embellishment of the school environment</li> <li>7. Maintaining an organised inventory</li> <li>8. To ensure adequate school transport</li> </ol> <p>Key word prompts</p> <ul style="list-style-type: none"> <li>• The sections as outlined above</li> <li>• Time spent also according to the time of the scholastic year</li> <li>• Time as in hours/minutes or even percentage of time throughout a week</li> </ul>
<p><b>14. Briefly describe your school?</b></p>	<ul style="list-style-type: none"> <li>• Describe it as if someone is visiting your school for the first time.</li> <li>• Provide a brief description as if <ul style="list-style-type: none"> <li>○ you are trying to convince an adult caregiver to bring their child to your school</li> <li>○ you are introducing your school to a foreign delegation</li> </ul> </li> </ul>
<p><b>15. Briefly describe your vision for your school and the school's ethos and climate?</b></p>	<ul style="list-style-type: none"> <li>• Key word prompts – <ul style="list-style-type: none"> <li>○ quality of school life,</li> <li>○ reciprocal respect within school and with key stakeholders</li> <li>○ engagement of personnel and students</li> <li>○ positivity within the school</li> <li>○ general feeling and support</li> </ul> </li> <li>• Key word prompts – <ul style="list-style-type: none"> <li>○ How do you see your school developing till the end of this scholastic year?</li> <li>○ How do you see your school in two years' time?</li> <li>○ Key areas to put forward (taken from job description) <ul style="list-style-type: none"> <li>• Maintaining Positive Relationships</li> <li>• Student Matters</li> <li>• Teaching Personnel</li> <li>• Home-School- Link Communities</li> <li>• Curriculum Development</li> <li>• School Vision and Development Planning</li> </ul> </li> </ul> </li> <li>• Administrative and Financial Uses</li> </ul>
<p><b>16. What do you consider to be you school's areas of strengths and areas for development</b></p>	<ul style="list-style-type: none"> <li>• Key word prompts <ul style="list-style-type: none"> <li>○ Areas within the school that work effectively; projects; school special positive aspects</li> <li>○ Areas working on in the School Development Plan <ul style="list-style-type: none"> <li>▪ Leadership &amp; Management</li> <li>▪ Teaching &amp; Learning</li> <li>▪ School Ethos</li> </ul> </li> </ul> </li> </ul>



## **SECTION 4**

### ***Personal Perceptions of Technology Competences, Knowledge & Skills***

This section intends identifying the Head of Schools personal definition of technology as well as their perceived competencies and skills. Their use of technology in their daily life will also be explored.

<p><b>17. What is your personal definition of technology?</b></p>	<p>Technology</p> <ul style="list-style-type: none"> <li>○ Educational Software – used in the classroom such as interactive whiteboards,</li> <li>○ Administrative Software – used for administrative purposes example e1, timetable, excel, word, etc.</li> <li>○ Moderating Software – such as e1 for behaviour purposes. Attendance, absenteeism and SMS alert</li> <li>○ Control Technology – such as CCTV and electric gate</li> <li>○ Access Technology – for special needs</li> <li>○ Communications/Networking Technology – email, skype, WhatsApp, Fronter</li> <li>○ Social Networking – Facebook, Twitter, Skype</li> <li>○ Other uses such as Forum for decision making, polls, calendars; projectors for presentation; audio and sound for microphones</li> <li>○ Maintenance Technology – for cleaning machines etc.</li> <li>○ Searches – for information, for reading etc.</li> <li>○ For statistics – excel, SPSS etc.</li> </ul>
<p><b>18. How would you describe your level of technology competence and skill?</b></p>	<ul style="list-style-type: none"> <li>● Try and experiment without any training</li> <li>● For home use as in edutainment, cooking, car/garage, computer software</li> </ul>
<p><b>19. Do you use technology in your daily life? How?</b></p>	<p>Options of Technology</p> <ul style="list-style-type: none"> <li>● Technology within the Home</li> <li>● Technology for Entertainment</li> <li>● Technology for Basic Home Necessities</li> <li>● Technology for Banking &amp; Financial Indications</li> </ul>
<p><b>20. Have you ever received any Technology and/or Information &amp; Communication Technology Training? If yes, what kind of training?</b></p>	<ul style="list-style-type: none"> <li>● ECDL courses</li> <li>● Online courses</li> <li>● E1 or Fronter courses</li> <li>● SIS courses</li> <li>● Other courses</li> </ul>

## **SECTION 5**

### ***Use of Technology in School by Head of School***

Questions in this section intend exploring how technology has infiltrated in Heads of Schools professional life and how it helps or hinders their individual leadership practices, responsibilities, roles and duties. Here the school leader will be encouraged to provide examples of samples of good practices taken up within the school using technology.

<p><b>21. What is your view of technology in education?</b></p>	<ul style="list-style-type: none"> <li>• If focus is on teaching and learning and such instructional applications, can move towards technology and administrative purposes...and vice versa.</li> </ul> <p>Is technology incorporated into administrative processes?</p> <ul style="list-style-type: none"> <li>• The extent to which technology is infused into business and management of schooling – daily routine processes; buses and transport; attendance; grades kept and posted; halls cleaned; maintenance; CCTV</li> <li>• Data-driven decision making can pervade a school and lead to continuous school improvement. <ul style="list-style-type: none"> <li>○ What decisions are being based on data? What decisions would you like to have more data for?</li> <li>○ Where do our data tell us we need improvement?</li> <li>○ Are meaningful data on student and management performance regularly collected throughout the year so that timely, appropriate and targeted interventions can be applied when and where they are needed?</li> </ul> </li> </ul>
<p><b>22. In the Head of School's job description, the following duty is included. How do you feel about it?</b></p> <p>“3.3 In the carrying out of his/her duties and functions, a Head of School shall be expected to develop the necessary knowledge, competencies and skills to be able to make effective use of information and communication technology.”</p>	<ul style="list-style-type: none"> <li>• What skills did you develop as an assistant head?</li> <li>• What skills did you develop as a head?</li> <li>• What skills do you still need to develop?</li> <li>• What helped you develop your skills?</li> </ul>
<p><b>23. What technological aspects do you use on a daily basis in your role as a school head to carry out your duties and tasks? Kindly elaborate by providing examples and samples</b></p>	<p><b>Standards cover</b></p> <ul style="list-style-type: none"> <li>• <b>Personal Productivity</b> - use of computer for increased professional productivity example calendar etc.</li> <li>• <b>Information System Use</b> – Information to track student data and information; Assessment; evaluation Financial, transportation and Personnel records etc.</li> <li>• <b>Record Keeping and Budgeting</b> – use of online tracking systems and inventories</li> <li>• <b>Communications and Public Relations</b> – Use a variety of technologies to communicate with stakeholders</li> <li>• <b>Online Research and Professional Development</b> – Can effectively search and extract information from online professional sources; understand and uses the Internet.</li> <li>• <b>Teacher competencies</b> - all teachers are expected to use technology to increase their pedagogical effectiveness.</li> <li>• <b>Ethical Use and Policy Making</b> – I am aware of issues of data privacy, equitable access and free speech issues.</li> <li>• <b>Leadership and School Vision</b> – Ability to use technological tools/computer to discuss/present and make decisions within the school community</li> </ul>

<p><b>24. The application for the post of a Head of School identifies a number of key duties and responsibilities' (Appendix 1). Could you kindly elaborate further details and provide technological examples or samples as to how you, in your role, are using them</b></p> <ul style="list-style-type: none"> <li>e. School Vision and Development Planning</li> <li>f. Maintaining Positive Relationships</li> <li>g. Curriculum Development</li> <li>h. Student Matters</li> <li>i. Teaching Personnel</li> <li>j. Home-School-Link Communities</li> <li>k. Administrative and Financial Uses</li> <li>• <b>Could you quantify your time on your Leadership Duties? How much time do you spend in a week on the technological aspects of these roles?</b></li> <li>• <b>How comfortable do you feel with all these technological aspects?</b></li> </ul>	<p><b>Performance Indicators</b></p> <ul style="list-style-type: none"> <li>• Model the routine, intentional and effective use of technology</li> <li>• Employ technology for communication and collaboration among colleagues, staff, parents, students and the larger community</li> <li>• Create and participate in learning communities that stimulate, nurture and support faculty and staff in using technology for improved productivity</li> <li>• Engage in sustained, job related professional learning using technology resources</li> <li>• Maintain awareness of emerging technologies and their potential uses in education</li> <li>• Use technology to advance organisational improvement</li> <li>• Model for staff practical uses of technology for professional productivity such as in presentations, record keeping, data analysis, research and communications</li> <li>• Use current technology-based management systems to access and maintain personnel and student records</li> <li>• Use a variety of media and formats, including telecommunications and the school website, Facebook etc. to communicate, interact and collaborate with peers, experts and other education stakeholders</li> </ul> <ul style="list-style-type: none"> <li>• Suggest in hours/minutes or a percentage</li> <li>• Technology in everyday life</li> <li>• Computer applications and Software</li> <li>• Social Media</li> <li>• Software for Educational Administration</li> </ul>
<p><b>25. Are there any other areas where technology is being utilised by the Head of School?</b></p>	
<p><b>26. Do you feel that technology has changed the duties and role of the Maltese Head of School? If yes,</b></p>	<p>Keyword prompts</p> <p>Categories of Duties</p> <ul style="list-style-type: none"> <li>a. Maintaining Positive Collegial Relationships <ul style="list-style-type: none"> <li>1. Human Resources – Teaching Staff, LSAs, Clerical Staff. Maintenance and Cleaning Staff</li> <li>2. Student Matters – Dealing with Student Issues</li> </ul> </li> </ul>

<p><b>kindly elaborate in which ways. If no why not?</b></p>	<ol style="list-style-type: none"> <li>3. Stakeholders – Parents, Caregivers, College Staff, School Council, Others</li> <li>4. Superiors – Communicating with Principal etc</li> </ol> <p>b. Pastoral Care</p> <ol style="list-style-type: none"> <li>1. Dealing with Discipline Issues</li> <li>2. Working on Student Engagement and Motivation</li> <li>3. Dealing with Emotional Issues</li> <li>4. Working with other professionals within and outside the college.</li> <li>5. Involvement of guardians</li> </ol> <p>d. Curriculum Development</p> <ol style="list-style-type: none"> <li>1. Ensuring quality of teaching and learning within the school</li> <li>2. To implement holistic learning activities</li> <li>3. Implementing National Curriculum</li> <li>4. Ensure positive assessment policies</li> </ol> <p>d. School Vision and Development Planning</p> <ol style="list-style-type: none"> <li>1. Working on formulating and implementing the school development planning</li> <li>2. Ensuring collegiality</li> </ol> <p>e. School Administration and Finances</p> <ol style="list-style-type: none"> <li>1. Managing School finances and ensuring that procedures are followed</li> <li>2. Carrying out the annual school classification exercise</li> <li>3. Preparation of timetables, assigning classes, subjects and responsibilities to teachers</li> <li>4. Replacement lessons</li> <li>5. Maintaining school statistics, student and staff records</li> <li>6. Ensuring the proper maintenance and servicing of the school building facilities and equipment as well as cleanliness and embellishment of the school environment</li> <li>7. Maintaining an organised inventory</li> <li>8. To provide adequate school transport</li> </ol>	
<p><b>27. What would you consider to be the technological opportunities and constraints in your leadership practice?</b></p>	<ul style="list-style-type: none"> <li>• Constraints <ul style="list-style-type: none"> <li>○ Usage</li> <li>○ Application</li> <li>○ Knowing how to Integrate it into daily practice</li> <li>○ Certain applications beyond my knowledge</li> <li>○ Time constraints</li> <li>○ Time to attend training</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Opportunities <ul style="list-style-type: none"> <li>○ Work faster</li> <li>○ More productive</li> <li>○ Message arrives faster</li> <li>○ Involving more the stakeholders through social media</li> </ul> </li> </ul>
<p><b>28. As a Head of School, do you feel that you require or have received sufficient training in the use of technology for school settings?</b></p>	<ul style="list-style-type: none"> <li>• What kind of training?</li> <li>• In which areas?</li> </ul>	

*Closure*

**29. Any other comments or feedback you would like to give about the research study and/or your leadership practice?**

**Thank You for your Time!**

## APPENDIX 4: DATA ANALYSIS TABLES

**Table 4.1**

*Training in Digital Tools.*

Themes	Codes	Numbers n=18
Digital Qualifications and training	• ECDL courses and SIS courses	8
	• Only formal SIS courses	5
	• More/other than ECDL and SIS courses	5
SIS courses issues	• Reasons for attending courses.	
	• To keep updated.	8
	• They affect my work.	8
	• Difficulties	
	• Time taken away from school.	18
• Learn by trial and error.	8	

**Table 4.2**

*Personal use of digital tools by heads of school.*

Theme	Codes	Number n=18
Consumption	<ul style="list-style-type: none"> <li>• financial services,</li> <li>• e-banking and</li> <li>• online shopping</li> </ul>	18
Information	<ul style="list-style-type: none"> <li>• accessing newspapers and reading about current affairs</li> <li>• watching YouTube documentaries.</li> <li>• searching for recipes</li> </ul>	9
Socialization	<ul style="list-style-type: none"> <li>• social media and communication tools such as WhatsApp and Emails.</li> </ul>	7
Leisure	<ul style="list-style-type: none"> <li>• playing basic games,</li> <li>• using Smart TVs</li> <li>• downloading movies etc.</li> </ul>	6
Production	<ul style="list-style-type: none"> <li>• the use of digital tools/software for the production of things such as photos</li> </ul>	2

**Table 4.3:***Attitude towards learning about technology.*

<b>Themes</b>	<b>Codes</b>	<b>Number n=18</b>
Attitude towards digital training and tools	• Level 1: Functional	6
	• Level 2: Curious/Experimenter	10
	• Level 3: Innovator	2

**Table 4.4:***Professional use of technology by heads of school.*

<b>Themes</b>	<b>Codes</b>	<b>Numbers n=18</b>
Communication and social media	• Emails	18
	• Word	18
	• Facebook – school page	5
	• PowerPoint	4
	• WhatsApp	2
	• Messenger	2
	• YouTube	2
Organisational tools	• Dropbox	2
	• QR Codes	2
	• Trello	1
	• Smartphone Notes	1
Data Collection and analysis tools	• Excel	18
	• Survey Monkey	6
	• SPSS	4
	• Google Forms and Google Sheet	4
	• Access	1
Other	• CCTV	3
	• Intercom and communication systems	2
	• Solar panels	1

**Table 4.5:***Further Professional Training Interests.*

Themes	Codes	Numbers n=18
Further professional training interests	• Training awareness of social media and legal aspects.	6
	• Organisational digital tools to support school processes.	4
	• Data analysis.	3

**Table 4.6:***View of School headship.*

Themes	Codes	Numbers n=18
Personal view of headship	• All-encompassing role and responsibility	18
	• Immediacy vs priority	16

**Table 4.7:***Heads' key tasks and responsibilities.*

Themes	Codes	Numbers n=18
Organizational administration	• School administration and financial planning	18
	• School organisation - timetable, lessons, class lists, room allocation, resources, staffing	18
	• Maintenance of school building and school inventory resources	7
Teaching and learning	• Curriculum development – learning outcome frameworks	18
	• Classroom pedagogies, methodologies and learning tools	18
	• Feelings of regret - limited time in this key area	15
People management and well-being	• Students' well-being	18
	• Pastoral Care	18
	• Diversity – Inclusion and Multiculturalism	12
	• Discipline	10
	• Parental support	9
	• Teacher support	8



**Table 4.8:***School Vision.*

<b>Themes</b>	<b>Codes</b>	<b>Numbers n=18</b>
School climate	• Proud of school	18
	• Ownership	18
School ethos	• Well-being (All stakeholders)	18
	• Raising standards, progress and success	12
	• Better future citizens	10
School improvement	• Ongoing school improvement	18
	• Planning for policy change	15
	• Balance vs instability	4

**Table 4.9:***Management and leadership style.*

<b>Theme</b>	<b>Codes</b>	<b>Numbers n=18</b>
Style	• Hands-on approach	16
	• Open-door Policy	15
	• Presence	12
Individuals Delegated To	• SMT	18
	• Head of Departments	18
	• Clerks	18
Attitude towards Delegation	• Collegiality	18
	• Collaboration	18
	• Trust	15
	• Checking	4

**Table 4.10:***Developing digital tools: responding at different levels.*

Themes	Codes	Numbers N=18
i. Macro Level	<ul style="list-style-type: none"> <li>• One-size fits all/ frustration</li> <li>• BYOD/confusion</li> <li>• Union issues</li> <li>• E-learning resource teacher</li> </ul>	<p>10</p> <p>8</p> <p>5</p> <p>5</p>
ii. Meso Level	<b>i. Technology for Administration</b>	
	<ul style="list-style-type: none"> <li>• Class Replacements</li> <li>• Student Attendance</li> <li>• Educators Special Leave</li> <li>• Student Behaviour</li> <li>• Data and Information</li> </ul>	<p>14</p> <p>12</p> <p>10</p> <p>9</p> <p>8</p>
	<b>ii. Technology for Management and Leadership</b>	
	a. Communication with staff <ul style="list-style-type: none"> <li>• Calendars and What's on</li> <li>• School procedures</li> <li>• Minutes of Meetings and Follow Up</li> </ul> b. Communication with stakeholders <ul style="list-style-type: none"> <li>• Social Media</li> <li>• Guardians – direct personal email</li> </ul> c. Collaboration d. Decision Making	<p>18</p> <p>18</p> <p>10</p> <p>12</p> <p>10</p> <p>8</p> <p>4</p>
	<b>iii. Digital Leadership and Implementation</b>	
<ul style="list-style-type: none"> <li>• School Policies and Educator Uptake</li> <li>• Digital Leadership</li> </ul>	<p>8</p> <p>2</p>	
iii. Micro Level	<b>iv. School Issues</b>	
	<ul style="list-style-type: none"> <li>• Updating of technology</li> <li>• Time spent on learning new digital tools</li> <li>• Procurement and Damages</li> </ul>	<p>5</p> <p>2</p> <p>4</p>
	<b>Teaching and Learning Issues</b>	
	<ul style="list-style-type: none"> <li>• Action Plans - Interactive White Board/ Game-Based Learning</li> <li>• BYOD/ Mobile Use</li> <li>• International Projects</li> </ul>	<p>12</p> <p>7</p> <p>4</p>

**Table 4.11:**

*Digital Impact on Intensification of Work*

<b>Themes</b>	<b>Codes</b>	<b>Numbers n=18</b>
Overall feelings	• Controlling and intrusive	14
	• Feelings of being overwhelmed.	10
	• Sadness of loss of personal contact with staff	3
Work-Life balance	• Synched devices	
	• Longer hours of work	18
	• Always available	8
	• Emails - Promptness of response	18
	• Impersonality	5

## APPENDIX 5: EXAMPLE OF AN INTERVIEW TRANSCRIPT

### SECTION 3

#### *Head of School Personal School Vision, Duties and Responsibilities*

This section is intended to provide the researcher with a personal view of the Head of School's perspective of school ethos and the vision for their school whilst addressing the strengths and areas for development. Time will be taken to focus on the Head's various tasks and duties and the time taken up addressing the key areas throughout the week.

<b>Answers</b>
SZP – Interesting that we you have already pointed out that the key aspect of leadership is the personal relationship with students.
Headteacher 6 - That's it, it's already an essential aspect of leadership. The dynamics of when I was a teacher in a school of 250 boys was different to that of an aspiring leader. It's good that we start considering models such as the Visual Performing Arts school where there are smaller numbers to build a community. It doesn't mean that we aren't trying to do it, however the challenges are more.
SZP – Yes numbers do make a difference because you get to know them well. Knowing a child by name and knowing their story definitely helps.
Headteacher 6 - To add to this, this year I assigned two assistant heads to each form. There are five assistant heads and three forms, so I myself took on the role of the sixth assistant Head. I took on the role of an assistant head of school of Form 3 students so that I am not only the head, but also taking responsibility and being a point of reference for a particular strata. If it is related to discipline, teaching and learning, inclusion there is myself and the assistant head for who we are focal points. Again the numbers are those that they are. I hate comparisons however 20 years ago there where large schools of 900 students, however they were selected according to their motivation to learn and where academically motivated and engaged as they wanted to succeed. They knew the career journey they wanted to embark on and how to get there. Nowadays its different. I feel the Head of School of three different schools – a highly academic school, a vocational school and a school for Social Emotional Behavioural Difficult children. It's a universal discussion which we need to keep discussing this as we need to guarantee proper student entitlement to our students. I am convinced that I have students in my school for whom entitlement is not being addressed especially where there are large disciplinary issues. Some students recognise immediately from primary that they are not academic oriented. Then they come to secondary and feel even greater frustration when they realise that they have another five years with eight academic subjects. We try to include loads of other programmes such as CCP and Prince's Trust – they help, they help, there is also the Learning Support Zone and time outs, hopefully soon we will embark on 'My Journey' and focus on vocational subjects. However, there is a strata of students which cannot reach the high academic path yet doesn't mean they cannot be productive citizens in society. ALP has done huge improvements and I wish we could include students in Form 3 as long as I see the students happy.

SZP - However the vocational subjects still are rather highly academic subjects. ALP to a certain extent it's like we are 'going back' to trade schools.

Headteacher 6 - I invite you to see the vocational subjects in our school which are very interesting, yet still have an intense element of writing, theoretical and assessment which within the first month puts off students.

SZP - Many want to be hands on when learning. With regards to the first question, we have already started addressing it extensively. What are your duties and responsibilities as a head of school? So you are already presenting your vision. What do you see as your main duties?

Headteacher 6 - As a head of school I am the official in charge and responsible for the 600 students and over 120 staff members. I am responsible in charge of maintenance and finances. Maintenance is still a grey area and I thank anyone who supports such as the Precincts Officer and the many support personnel who give their input. The school environment I believe is very important as it needs to be welcoming and motivates one towards learning. I believe very much in school aesthetics. I am also responsible for the school finances. I coordinate sports is an area which is close to my heart and I work towards. I worked for some time within the Sports Promotion Unit and so sports is a key area for me. I work on coordinating with EUPA, Erasmus as well as many other informal duties which are on my list. The tasks are delegated amongst the Assistant Heads of School as agreed at the beginning of the scholastic year.

SZP - If you had to briefly describe your school, the vision, climate and culture ...

Headteacher 6 - I came into a school which has a strong focus on teaching/ learning where students succeeded if they wanted to. Unfortunately, in the past five years there have been four different heads of school which is not the ideal context. I am the fourth one so it's now a new page for the community I represent. I have to admit that there is a culture still tied with a certain stratum of students which performed well and has been present since its inception in 1967. Today's scenario is different we have mixed abilities and let us not be afraid of this, however admittedly there are still teachers and some officials who find it hard to understand that in the classroom you could have three different student abilities and that is something we are working on. We celebrate good practices and when we informally visit classes we indicate this both teachers and students. With students we use merit cards where we emphasis the good practices and work effort students are putting into their work. This is the last year of Form 5 girls and next scholastic year we will be an all co-ed school. Having a mixed school culture is a challenge for some of the teachers in itself as they have always taught girls and now need to adapt to the male reality. There are ongoing, live dynamics some of which bring controversies and disagreements, however the way forward is that we still need to cater for the new students and realities.

SZP - With regards to school climate with staff and parents?

Headteacher 6 - I have to be honest with myself that this is only my 5<sup>th</sup> month. I have started school with our Form 3s. I'm still new. However it seems the climate is a positive one. It's an open door policy. Although I keep Tuesdays and Thursdays for staff, they know that at any time they can talk to me. If it's an emergency it's dealt with immediately. They also have my email address at their availability so if they need anything they just contact me. There is also the school website where many

teachers send comments. We also set up a Facebook page where we can get a lot of feedback. We had the one-day parents during the first term and soon we will be having the parents evening where we will be giving parents feedback. We organised mock interviews for form 4 and form 5 students with an open career fair organised on a Saturday for the school community whereby many attended. There are always numerous initiatives to try and get the parents closer to the school. We are also experiencing a phenomenon in schools whereby both parents are very busy and that is why when comparing certain data the numbers are low. However all in all I am glad with the effort we are putting into it.

SZP - If you had to consider your school strengths and areas of development that you are working on

Headteacher 6 - Behaviour is a particular aspect whereby each school would like to improve. A lot of energy is being spent on certain student behaviours. There seems to be more focus on students with negative behaviours and this is disheartening for the staff. I refer to the two Professional Development sessions which I held already this year, which were related to how to engage more with the students, even using ourselves as a resource, teachers amongst ourselves. We need to focus more on those students who are good motivated, well behaved, genuine students who are passing through our corridors. Students whose name we do not know because they are quiet students. We have 20 troublesome students in all, with 3 students, which presented a health hazard to themselves, their peers and staff, and are being kept away from school. This is an area which I would like to address as a whole-school approach. It is earmarked as a long term objective in our SDP. There are many positive areas and I am not sure from where to start. I found a culture with numerous strengths which is my duty to maintain and improve. There are numerous officials and teachers who go way beyond their call of duty and organise numerous activities extra-curricular and curricular activities. Which shows their dedication to the school. It also indicates not only a professional but also a wholesome educator. Something which can be considered both ways is that there is a staff which has been here for a long time. This means that there is a sense of belonging. It could be harmful because change for some could be like a bereavement. There are others who feel that this is their second home. There is a substantial number of members of staff who have been here for a number of years. Another positive aspect is that as the school is central, it is used extensively by third parties where renting of the premises is positive for activities, rentals and income. We consider not only the rental investment which is discussed by the school council, but also what activities they can provide for the school. Example if private sports entities rent the gym they either provide some extra lessons to our students during break or after school hours. That is something which is positive.

SZP – However having so many entities could actually increase your workload...

Headteacher 6 - Yes, unfortunately the phone can ring at 9pm with specific issues about the school premises.

## **SECTION 4**

### ***Personal Perceptions of Technology Competences, Knowledge & Skills***

This section intends identifying the Head of Schools personal definition of technology as well as their perceived competences and skills. Their use of technology in their daily life will also be explored.

SZP – So we have now reached section 4 which addresses your personal perceptions of technology. What is your personal definition of technology?

Headteacher 6 - Presently technology means that I have a laptop open in front of me on the desk where I can receive and hear the bleep of the email notifications continuously beeping for 24 hours, weekends included. Aside from that it's that I can use an excel sheet for classification, use any programmes which I can use in line with SIS so that I can create the timetable, create the subject options. Basically that I can use all the gadgets. However admittedly it's an area which I can learn more about. I use the basics well.

SZP – And in your daily life, at home, entertainment

Headteacher 6 - Basically I enjoy listening to music so I use YouTube a lot and it keeps me sane. I enjoy watching documentaries, read newspapers online. I also have a personal Facebook page.

SZP - E-banking and financials

Headteacher 6 - Yes yes I use them. I don't need to go on site but I can do them online.

SZP – How would you describe your level of technology competence?

Headteacher 6 - Average.

SZP – Did you take any courses on technology? Like ECDL

Headteacher 6 - No ECDL

SZP – any courses with SIS

Headteacher 6 - Yes, those are ongoing and I have booked again to attend timetabling, staff cover, e1.

## **SECTION 5**

### ***Use of Technology in School by Head of School***

Questions in this section intend exploring how technology has infiltrated in Heads of Schools professional life and how it helps or hinders their individual leadership practices, responsibilities, roles and duties. Here the school leader will be encouraged to provide examples of samples of good practices taken up within the school using technology.

SZP - We are now moving to another section about your use of technology within school. What is your view of technology in education?

Headteacher 6 - In my opinion we are travelling on a car which is going at a fast speed, and the passengers in it are not ready for that speed. I believe the department needs to actually visit schools to see how interactive whiteboards are being used, how the electronic gadgets such as the 3-in-1 are being used. These cost thousands of Euro. If a research had to be done, many of us would be surprised with the outcomes.

SZP – So you are saying that from the aspect of teachers and teaching and learning, are not necessarily using it well.

Headteacher 6 - I have teachers who just use the interactive whiteboard to show you tube clips.

SZP - So it's not only about the interactive white board use, but the methodology that is being used.

Headteacher 6 - Then I also have teachers, who panic if there is no electricity as they only know how to teach with technology. However it's also a pity that young teachers don't know what to do or how to teach when such situations occur. You can look outside the class and you have the best resource.

SZP - When we are talking about technology aspects such as data driven decision making. Things related to SDP or decisions which need to be taken in such situations as the Classification. Do you take data into account, such as exam results, dashboard etc.?

Headteacher 6 - Yes, especially is we are getting an intake from another school. It's something we have to do as I have to see how I am going to classify and divide the classes. I have to make use of IT in this context.

SZP - How do you use it?

Headteacher 6 - through data which is passed on from the school with Excel sheets

SZP - If you have to take a decision on SDP how do you communicate with the staff?

Headteacher 6 - Vis-a vis IT?

SZP - Anything technological.

Headteacher 6 - With regards to the staff I believe I have outlined the SDP internal review. We use the online questionnaire via survey monkey which one can answer quickly at home or at school. It's also important to note that every Friday evening the school, from my office, issues a weekly planner. This aside from the weekly staff briefing every Monday or Wednesday. The planner is sent digitally to all staff and other college representatives such as psycho-social team.

SZP - In the Head of School's job description, the following duty is included. How do you feel about it? "3.3 In the carrying out of his/her duties and functions, a Head of School shall be expected to develop the necessary knowledge, competences and skills to be able to make affective use of information and communication technology. What do you think about this statement?"

Headteacher 6 - As already mentioned. There are effective methods which the school uses to communicate effectively with staff and parents. One area which I forgot to mention about communicating with parents is that of the e1 monitoring system. A parent can at any time go into the system and see what comments teachers have left about the student. Last detention, last report that they got. Those teachers interested in making use of this system have the comments already online with nothing hand written. And at the click of a button I print the whole form's comments. It is a culture which we are trying to introduce, and we have about 55% of the staff on-board with the use of this system. You always have those who resist change, there are those who are afraid of IT, there are those who try and dishearten those who use it. However the way forward is this (using technology)

SZP - And in your role you also have to keep yourself updated

Headteacher 6 - Yes I have to keep myself updated. In fact we have such a significant uptake of Italian students and although my Italian is comprehensible, it is not advanced to understand specific legal terms. So basically to update myself I am taking an online Italian course. So I brush up my conversation Italian.

SZP - So you are using technology for your learning.

Headteacher 6 - Yes and it's a good online application which I can use when I want.



SZP - What technology aspects do you use on a daily basis?

Headteacher 6 - At the moment we have this 3-in-1. I keep specific databases in it. Then for email I use laptop, there is an internal telephone system for each classroom, there is an internal PA system where I can call any student at any time. It also is essential in dismissal as it makes it more effective without creating too much disruption for the school and which also reduced noise pollution. Before if I call out a bus route, the whole neighbourhood would hear us. In the pipeline as well there is the intention of having monitors around the school so that there are ongoing updates from replacements to positive comments to an update on an outing or activity. That is the way forward. There are schools where replacements are paperless. A security system will also be introduced at the school entrance, where one needs to ring a bell prior to entering the school. Such clearance will help us to maintain adequate security within the school.

SZP – Along with CCTV?

Headteacher 6 - Till present we do not have a CCTV system as the building is old with an old electrode, and whenever there is a lightning strike, it burns the whole system. The CCTV at the moment is off

SZP - I'm noticing the CCTV is in your office. Which means your office is totally surrounded with technology

Headteacher 6 - Yes that's it. The CCTV is just there and not working. However thinking about it I might have above average competences and not average as I mentioned previously.

SZP – You also mentioned that your tasks include budgeting, absenteeism reports

Headteacher 6 – That is as a school. Absenteeism reports are issued by the Secretaries office. They take care of the logistics

SZP – Finances they input

Headteacher 6 – Yes and I check and finalise them

SZP – Classification and Timetabling

Headteacher 6 – That is done through programmes that we have

SZP – Do you do them on your own or with the assistant heads

Headteacher 6 – Let me check the teachers handbook

SZP – Teachers Handbook is online?

Headteacher 6 - Yes and they are also given a hardcopy.

SZP - Do you have a student's handbook

Headteacher 6 - Yes we do. We updated it in August. Of what is accepted and what is not.

SZP - And it is published. Do you have a webpage? Facebook page?

Headteacher 6 - Yes we do.

Headteacher 6 - My duties I am going to quote them – General running of St Tereza Secondary School, primary liaison with the Directorate and College Principal including the implementation of new procedures and policies established in the Council of Heads meetings. Distribution of administrative work including staff classification and daily updates. Overall responsibility of Form 3 students. Preparation of Agenda for weekly SMT meetings. General running of the clerical and secretaries office, maintenance matters, weekly planners, finance administrator, leave approval for teachers and LSEs, approval of activities and related outings. Main coordinator of staff meetings and weekly meetings; school

council secretary; celebration day and graduation day main coordinator; and class visits. These are the official tasks.

SZP – So timetabling is not in your remit?

Headteacher 6 - Yes timetabling is in my remit, however I am assisted by an Assistant Head.

SZP - So work is delegated

Headteacher 6 - Of course it has to be. I cannot be responsible for everything. An assistant head who is responsible for transport, another for inclusion, another for exams, another for pastoral care, another takes care of break supervision, assistant head who takes care of European projects, another who helps in classification and timetable, assistant head responsible for behaviour monitoring system, assistant head responsible for NQTs, assistant head coordinating school outings,

SZP – And as you mentioned through the weekly SMT decisions are discussed and taken together.

SZP - with regards to emails at what time do you manage to answer them?

Headteacher 6 – If it's one of those rare quiet days, I attempt to see them at school. However most of the times this is done at home.

SZP - How much time do you take?

Headteacher 6 - I take about another 3 hours at home minimum, and it something which people don't seem to understand. If I don't do them I fall behind.

SZP - Even in Summer?

Headteacher 6 - Last Summer I came to school on a daily basis. It was my choice, as I had just been transferred to the school, and I could not afford not to be at school. I found good structures and systems in place when I moved here which I also needed to adjust to. In Summer there was a lot of preparation and maintenance school works. With my presence I was also checking and confirming that the works required were being carried out.

SZP – Not an easy situation

Headteacher 6 - This chair teachers you a lot. How you need to work with the people and resources you have available. It's a very lonely job. You are surrounded by people who are constantly looking up to you in terms of decisions. It could be that the yes that I say to you could be a no to someone else. And I feel the responsibility a lot, apart from the fact that I do not want to be the person who creates bad blood. In reality when taking decisions unknowingly you are creating this context. When taking decisions usually my priorities are related to the students' issues. It's because I believe that a particular class will benefit. One also then needs to be professional with regards to such issues that arise. My decisions are always based on student entitlement.

SZP - The application for the post of a Head of School identifies a number of key duties and responsibilities. Could you kindly elaborate further details and technological samples? You have already expanded extensively upon this question in terms of school ethos and vision, School development planning, communication with staff

Headteacher 6 - Yes we also have the school generic email where we receive vast number of emails which I then disseminate to the respective departments. If one sends an extensive number of emails, the tendency is that people do not read them. So I select those which are relevant to each department and which is personalised. This is for maths teachers etc. It's also time consuming.

<p>SZP - You mentioned the School Calendar and updates which are sent...</p> <p>Headteacher 6 - Yes a lot of it is done technologically. The school webpage is updated and the Facebook page. There is an individual who fits the role. There is no Saturday or Sunday because if there is an activity which was held on a Friday, then that means that during the weekend it will be uploaded.</p> <p>SZP - With regards to curriculum development and teachers use in the classroom</p> <p>Headteacher 6 – Yes we have support from e-learning and digital literacy support teacher, so that any IT related issues can be addressed. We also did promo on the e1 monitoring system we used the subject meetings so that he could go around and instruct each teacher and so no one has the excuse that they don't know how to use it. Training is ongoing. However you can take a horse to the water but you cannot make it drink.</p>
<p>SZP - Any other areas where you use technology? However I believe you have exhausted everything</p> <p>Headteacher 6 - Yes</p>
<p>SZP – Do you feel that technology has changed your duties and responsibilities' as Head of School?</p> <p>Headteacher 6 - It has made me more present even when I am not present. Example the expectations that people have from you, such as expecting you to be constantly present on a Saturday and Sunday. Telling me....but I informed you...when? .. at the weekend. Even if I might be aware of what was sent, it's the expectation that they get an immediate answer or response. I do send emails at 3am when I cannot sleep and end up working, however I am not expecting answers. Its like people send an email at 4am and expect you to answer immediately.</p> <p>SZP – Its like work-life balance is lost.</p> <p>Headteacher 6 - As head of school you definitely lose it. We are also in error when we constantly correspond at all levels only by email from Ministerial to Departmental level. We need to meet the people, we need to have the people on site; we need to have the Eos here on premises. That they talk to you, they are present, dealing with real situations. They send 3 page circulars and they are expecting us to read each word, highlight areas etc. This takes an hour or two. Emails need to be brief, short, direct, and to the point and you sustain it with your presence. We are ending up talking to each other through a machine. Is it on? I don't think so. Technology is essential, however the human presence is essential. If an activity is being organised by the librarians, during the staff briefing I look out for them.</p>
<p>SZP - Yes however the staff briefing is supporting technology use, not you are using technology as the only way to communicate with the staff. What would you consider to be technological opportunities and constraints in your leadership practice?</p> <p>Headteacher 6 – I am conscious that we are reaching a robotic age, although it scares me, I am curious about it. In fact I am in touch with a local professor on artificial intelligence, which is a subject which I am not too informed about, however it interests me, it's the way forward and I need to embrace this. With him, I am trying to set up an activity for our Form 5 students on artificial intelligence.</p> <p>SZP - What I find interesting is that despite – using your words – you are not well informed about AI, you are still curious.</p>

Headteacher 6 - Yes I am curious. He had sent correspondence to all schools where he wanted to conduct an activity for form 2s and form 5s to make students aware of this area. It is a reality which we are not prepared for as a country.

SZP – With regards to training, I’m not sure I asked you about ECDL

Headteacher 6 - No I never did it.

SZP – As head of school do you feel that you have sufficient training or do you require more training?

Headteacher 6 - Training is never enough. I enjoy that time at SIS where I have the opportunity of learning on the updates and have some time on my own to practice them and do specific exercises on IT on options, timetable, classification etc etc. As a father I would like to keep in touch with what my children are using and living their reality. However, I still believe in the importance of the human touch, and I hope that we will focus more on behaviour and not technological behaviour. We are ending up talking to machines.

SZP – Any other comments or feedback?

Headteacher 6 – Just that this discussion has made me even more aware about the importance of remaining curious and to keep updated. We will not revert back but just keep moving along this path. The survivor is not the strongest one but the one who learns to adapt to new tools, and situations. It’s a skills which I feel I have and which helps me.

## APPENDIX 6: OPEN CODES

### Excerpt focusing on School responsibilities, Tasks and Visions

Tasks	<ul style="list-style-type: none"> <li>• Human Relationships (Well-Being, Relationships, Community, Communication, Absenteeism, Pastoral care, Parents, Principals, Director-Generals)</li> <li>• Communication (Emails, Procedures, Calendar, WhatsOn)</li> <li>• Teaching and Learning (Curricular Work, Pedagogy, NQTs)</li> <li>• Organizational Work (Timetable, classification, class lists, Finances)</li> <li>• School Development Planning (Internal review, questionnaires, statistics, vision setting)</li> <li>• Maintenance (Building issues, cleaning done thoroughly, Inventory)</li> <li>• School Transport</li> <li>• School Activities</li> <li>• Decision making</li> <li>• Multitasking</li> </ul>
Vision for leading	<ul style="list-style-type: none"> <li>• Responsibility (for future citizens, for people within schools)</li> <li>• Student (entitlement, student getting what is theirs, holistic education, multiculturalism, be the best that they can be, pastoral care, SEC exams)</li> <li>• Teaching and Learning (Improving quality)</li> <li>• Sense of Belonging (Living the values, work with the people I have, hands on)</li> <li>• Transparency and clarity (through communication; avoiding vague and abstract goals)</li> <li>• Collaboration and Cooperation</li> </ul>
Attitude	<ul style="list-style-type: none"> <li>• Curious (Expanding vision)</li> <li>• Efficiency</li> <li>• Stability</li> <li>• Priorities (What is urgent; what is Important. Planning vs Crisis Management, Immediacies)</li> <li>• Presence (Open Door Policy, walk the corridors)</li> <li>• Pride</li> <li>• Delegation (discuss, identify specializations, school expertise, collaborate, cooperate, SMT members and HODs, Clerks, Trust, Checking, Leader of Leaders)</li> </ul>
Feelings	<ul style="list-style-type: none"> <li>• Guilty not focusing on teaching and learning; Satisfaction with work; Overwhelmed; Crisis Management; Planning; Immediacy Frustration.</li> </ul>

## Technology

Use	<ul style="list-style-type: none"> <li>• Communication (Emails, WhatsApp, SMS, Report writing, Word, Notes)</li> <li>• Facebook, Webpage, Whatson Calendar, Messenger, Minutes of Meetings, YouTube)</li> <li>• Teaching and Learning (School Uptake; BYOD/Mobile Use; International Projects; Action Plans - Interactive White Board/ Game Based Learning) Synched apps good (as can keep it and its recorded and written; Access from home)</li> <li>• Data and Research (Storage, Drop Box, Survey Monkey, Excel, Dashboard – nor reliable, SEC results, Student progression, SPSS)</li> <li>• Monitoring (Behaviour, Homework, Google Forms)</li> <li>• Solar Panels</li> <li>• Organisation (Timetable, Classification, Finances and Attendance, Trello, Notes Apps)</li> <li>• Google forms (Decision Making, Feedback, Shared Sheets, Detention, Teacher Leave or Sick Leave)</li> <li>• Safety (CCTV (police and discipline), fire alarm, intruder alarm, electronic gates, smoke alarm)</li> </ul>
Attitude to Technology	<ul style="list-style-type: none"> <li>• Comfortable (Not savvy, Google search, systems that work, use what is already there, use the basics, that which helps with work not communicate, make life easier, supports, more effective and faster – done in less time than manually, deadlines, people a click away)</li> <li>• Experiment (new technological systems to reduce administration processes, embedded technology, enjoy a lot, create own programmes at work)</li> <li>• Not fascinated (just work purposes, stay as far away, what works, functional, not depend on it, intrusive on my quiet and private time, not competent, no control)</li> </ul>
Attitude and Feelings	<ul style="list-style-type: none"> <li>• Human Aspect (missing, made us slaves, impersonalisation, lengthy circulars, loss of human contact, cyber bullying, technology will not replace the teacher, intrusive)</li> <li>• Work Intensification (Take work home more accessible, extra work and increased stress, many gadgets constantly demanding attention, constant emails, people lost patience not prepared to wait for answers, obsessed)</li> <li>• Labour Efficiency (Faster for more tasks, closer human communication,</li> <li>• No electricity – no tools</li> <li>• Control (Try to find balance, fear of controlling me)</li> <li>• Learning (Takes time; trial-and-error)</li> </ul>

	<ul style="list-style-type: none"> <li>• Uncertainty (With people I am just going to do it; with technology I will ask about it and how it works. If it benefits students, then I am all for it.)</li> </ul>
Delegated Tasks	<ul style="list-style-type: none"> <li>• SMT</li> <li>• Clerks (e1 finance, e1 attendance)</li> <li>• IT department (webpage and Facebook)</li> <li>• HOD of e-learning /e-learning teacher (develop school-based software, support pedagogical)</li> </ul>
Challenges	<ul style="list-style-type: none"> <li>• Department Decision Making (no say in software decision, no consultation, interfered with a functioning school system to use new systems)</li> <li>• Synched apps – intrusive</li> <li>• CCTV – burden of quotations on schools</li> <li>• Damages - responsible for mending</li> <li>• Union interference (Fronter, staff training)</li> </ul>