

Teachers' Response to the Sudden Shift to Online Learning during COVID-19 Pandemic: Implications for Policy and Practice

Leonard Busuttil^{1,*}

leonard.busuttil@um.edu.mt *

Rosienne C Farrugia¹

rosienne.c.farrugia@um.edu.mt

Abstract: The onset of the COVID-19 pandemic and the eventual closing of schools in March 2020 throughout the world caused major disruptions to the educational experience of all learners. Teaching and learning began to be organised and delivered from within the homes of educators. With little time to prepare and make the necessary arrangements to transfer devices from schools to teachers' homes, technological investment financed over several years remained largely idle behind the closed doors of school buildings. This paper looks at the experiences of teachers in primary and secondary schools in Malta as they rapidly shifted their work to online modes of teaching and learning during the first wave of COVID-19 pandemic. Data gathered through an online questionnaire captured the views of 407 Maltese educators, working with learners aged five to sixteen years. Through a series of open and closed-ended questions, interesting data was yielded on the approaches they were adopting to deliver learning. Findings indicate teachers used both real time and asynchronous approaches. Benefits and disadvantages of both systems emerged from their responses. Rich insights into the challenges educators faced with both modes of remote online instruction are outlined. Maltese teachers' voices on the support they received from their leaders and school authorities, and the ways they kept track of learning and learners during the times of COVID-19 are presented. The implications of how teachers and schools responded to the emergency shift to technology-mediated schooling, the influence of previous investment and training in the use of digital technologies and the impact on learners and learning are also explored.

Keywords: COVID-19 pandemic, remote online instruction, teacher voice, technology-mediated, synchronous and asynchronous modes of teaching and learning.

¹University of Malta; *Corresponding author.

Introduction

Recent research by the European Commission draws a picture of the current state of use of technology in education throughout Europe (European Commission, 2019a). Investment in educational technology has been on the increase in the past years. Most of this investment involved the improved connectivity between schools and the internet, as well as substantial financing of hardware, ranging from interactive toys used in the early phases of schooling, to devices such as tablets, laptops, robotic kits, 3D printers and toys. In line with constructivist and constructionist epistemologies, this investment aimed to develop children and adolescents' digital skills, improve coding skills, foster creative and higher-order thinking and encourage active participation and engagement with learners taking leading rather than passive roles. In Malta, the introduction of web platforms used by teachers to connect with students outside the classroom mainly served as an online space for educators to "... create, maintain and distribute their learning materials as well as space to store students' work and performance reports" (Caruana, 2011). It was unlikely for educators to envisage the extensive reliance on web platforms in an emergency scenario brought about by the COVID-19 pandemic where schooling shifted to online modes of teaching and learning.

This paper looks at the way teachers in Maltese schools responded to the sudden change to online learning within a new educational reality that came into existence in March 2020 when the World Health Organisation declared COVID-19 to be a pandemic. By looking at teachers' responses as 'front-liners' of new educational praxis consisting predominantly of technology-mediated online modes of teaching and learning, this study strives to capture the voices and experiences of Maltese teachers through data gathered during the first wave of COVID-19 spread. The aim is to document and gain insights into the circumstances, benefits and challenges of the sudden shift to remote online instruction for educators teaching primary and secondary school-aged learners in Maltese schools from the three sectors, namely state, church and independent.

The Maltese Context: Background to the Study

Being a small European nation, with approximately half a million residents living on a densely populated island, Malta faced its own unique challenges as the COVID-19 situation unfolded. Grech and Grech (2020) documented

and analysed the impact of the pandemic on the mental health of the Maltese population. Initially observing from a distance how things were evolving in China, and possibly thinking wishfully that the COVID-19 infectious disease would not reach the shores of the Maltese islands, on March 7th, Maltese citizens and residents were informed about the first confirmed case. This quickly rose to nine existing cases which led to the closure of schools a few days later, with an increase in anxiety levels manifested in a prevalent attitude towards 'emergency preparedness' and a disruption of normal routine for many, particularly those with school-aged children and adolescents (Grech and Grech, 2020, p.534). A disturbance which required educational institutions and families to cooperate, communicate and work together to transition into remote online education as rapidly as was humanly and logistically possible. The changing roles of teachers and parents in the education of children and adolescents became instantly evident (Farrugia and Busuttill, 2020). Teachers resorted to digital technologies and online communication to instruct learners and their families about content to be covered for a particular day or week. Parents and guardians were expected to become more directly involved in their children's education than ever before (DCLE, 2020a).

On the 13th March 2020, the Maltese government issued a directive demanding the physical closure of schools. This followed an announcement made two days earlier by the World Health Organisation stating that COVID-19 was being officially declared a pandemic. Deeply concerned by the alarming levels of spread and severity of COVID-19, schools and educational institutions in several countries around the world closed their doors. The directive stipulated that school closure in Malta was to take place with immediate effect, with the purpose of adhering to 'social distancing' measures, ultimately working with the local authorities to 'flatten the curve' and minimise the spread of the contagious respiratory illness. Leaders, teachers, learning support educators and other professionals working with learners in schools were tasked to quickly adopt emergency measures and to adapt to new ways of teaching and learning. Digital technology became the means through which teachers were able to respond to a novel and desperate situation that demanded the cooperation and effort of leaders, educators and families.

Thus, teaching and learning in Maltese schools shifted online in a matter of days. Some educators, urged and/or supported by their School Management

Teams (SMTs) transitioned with relative speed, adopting synchronous or asynchronous modes of online instruction, or a combination of both. Others delayed the onset of online teaching strategies as they waited for further instructions, assistance or directives. In Malta, a country with a strong teachers' union presence and influence, schools were being expected to find ways to communicate with students of all ages, mostly using online learning environments. Flexibility, continuity of experience and educational access for all became a main concern for Maltese educational leaders, teachers and other educators. Efforts encouraged and supported by the islands' two main unions for teachers (Malta Union of Teachers - MUT and Union of Professional Educators - UPE) were made to strike a balance between non-discriminatory provision for every child and adolescent attending Maltese schools and a commitment to safeguard the wellbeing and working conditions of teachers. In an announcement issued by the MUT, educators were commended for their initiatives to '... prepare, share and communicate educational material with their students, particularly through the official iLearn virtual learning environment in state schools'. Simultaneously, teachers were also encouraged to report immediately to the union should their employer/s instruct them to '... give online appointments to do lessons individually, to keep the school timetable routine, to have online video calls with students or to record videos for students to have 'normal' lessons' (MUT, 2020, March 17).

Reports and articles on social media and local newspapers throughout the lockdown period indicated mixed feelings from the public about the quality and kind of educational provision experienced by different learners and their families (Farrugia and Busuttil, 2020; Micallef, 2020). This seemed to largely depend on individual teachers' and schools' understanding of what constituted good and feasible emergency online instruction. Numerous discussions created by parents and educators on social media platforms indicated that a variety of online approaches were used. These ranged from communication of instructions for parents/ guardians or older students to follow, printable resources and materials to download and work through, as well as sporadic attempts at real-time online sessions or other synchronous and asynchronous strategies. There were also indications that some schools supported their teachers to create a more consistent and regular slot on a daily or weekly basis. This aimed to provide children and adolescents with a chance to interact online with their classmates and teachers.

In a letter circular dated 6th April 2020 (DCLE, 2020b), the Ministry of Education and Employment (MEDE) published a number of points agreed upon by members of a Working Group consisting of representatives from the state, church and independent school sectors as well as the MUT. This group was set up by MEDE to continue strengthening online teaching and learning during the last term of the scholastic year 2019/2020. All educators were encouraged to provide an educational service for all their students, using online platforms approved by their respective schools or by the Educational Directorates. Although real-time interaction with students was encouraged, this was to be carried out at the discretion of the individual teachers during existing timetabled slots for both primary and secondary school classrooms. Educators were also instructed to “cover the most important aspects of the respective syllabi and which render themselves best to online modes of teaching and learning” (DCLE, 2020a). Subsequently, in another circular, the Director General pointed to the requirement for teachers to send a copy of their scheme of work and a week by week record of work to their respective heads of school (DCLE, 2020c). The rationale behind this was for schools to assess the impact of the shifting to online modes on teaching and learning and to keep track of the syllabi covered for future planning.

Faced with the possibility of a second or third wave of contagion and spread of COVID-19, the preference for asynchronous online modes of teaching and learning as opposed to real-time or live online sessions was expressed by the Union of Professional Educators (UPE) in response to the statement issued by the Ministry of Education and Employment (MEDE) on August 3rd regarding three possible scenarios for the opening of schools in September 2020 (Sansone, 2020; UPE, 2020, August 4). The first scenario involves the ‘normal’ entry into schools at the beginning of the new scholastic year. The second one introduces a hybrid approach with groups of students having face-to-face lessons alongside online teaching for other groups to reduce the numbers of students in the same building at the same time. The third scenario sees a generation of children and adolescents being educated through remote online instruction for a minimum of a term, if not a whole scholastic year, should the current circumstances prevail. To this effect, the Malta Union of Teachers (MUT) voiced its concern regarding the probability that schooling will once again have to be shifted online due to an increase in the number of new COVID-19 cases recorded in the beginning of August, and the repercussions the delay in physically opening schools will have on students’ learning, development and wellbeing (MUT, 2020, August 5).

At the time of publication of this paper, schools in Malta have reopened with the start of the new scholastic year 2020/21. The COVID-19 pandemic persists and, as predicted, it has led to new procedures and guidelines by which schools and educational institutions were requested to operate (Office of the Superintendent of Public Health, 2020). Amongst these guidelines, it was specified that smaller numbers of students were to be taught in bubbles, with their desks kept 1.5 metres apart. Masks were mandatory at all times on the school premises for adults and for students aged eleven years and over. Children between the age of three and ten were to wear a mask or a visor in communal areas. Having said this, the COVID-19 scenario is constantly changing and it is expected that new measures and guidelines may need to be issued in and over time to mitigate the spread of the virus. However, for the purpose of this paper the focus will be on Maltese teachers' response and experience of online learning during the first wave between March and June 2020.

Literature Review

Technology in Maltese Schools

Investment in educational technology in Maltese schools has been on the increase in the past years. Interactive boards were introduced in schools almost a decade ago (Attard & Bonello, 2016) with programmable toys, robots and 3d printers following in the recent past (DOI, 2016). In line with the Digital Malta Strategy (Digital Malta, 2014) a pilot project introducing tablets in primary schools was launched in January 2014 (DOI, 2014). This pilot project saw the introduction of tablets in a number of state, church and independent schools, as the three main sectors of education in Malta. Following the successful completion of the pilot project, tablets were eventually introduced in all the year 4 classes in the scholastic year 2016/17 and in years 5 and 6 in the subsequent two years (NAO, 2019). These year groups form part of the Junior Years within an educational system that is organised in three phases: the Early Years (comprising of Kindergarten and the first two years of primary schooling for children aged between three and six/seven years), the Junior Years (comprising of Year 3 to Year 6 in the primary school years for children aged seven to ten/eleven years), and the Secondary Years (comprising of Year 7 to Year 11 for students aged eleven to sixteen years). Compulsory schooling in Malta starts at age five when children enter their first year of primary school (Laws of Malta, 1988).

In a recent study, the European Commission (2019a) created a benchmark of the progress of ICT in schools across the 28 European states, Norway, Iceland and Turkey. In this study, the Maltese classrooms were found to have a high provision of digital equipment (laptops, computers, cameras, whiteboards) per number of students when compared to the European average for primary and lower secondary. The classes in primary were also classified as having a higher speed internet connectivity when compared to the European average, whilst the ratio of students who used a computer at school for learning purposes in secondary schools was also higher than the European average (European Commission, 2019b).

The provision of hardware in schools only provides a partial view of the state of use of technology in Maltese schools. Technology is only useful if it can be used in a pedagogically sound manner. Educators have a dual role in terms of technology use, they serve as a role model and hence need to be equipped with digital competencies to participate in a digital society and they also need to possess educator-specific digital competences to be able to effectively use digital technologies during teaching (Redecker, 2017). It is for this reason that most states in the EU integrate digital competencies in a teacher competency framework. Some of the member states have also developed a digital teacher competency framework which refer to teacher-specific digital competencies that teachers should possess. Malta is one of the few member states that does not maintain a teacher competencies framework (Commission/EACEA/Eurydice, 2019). In a study conducted to explore Maltese educators' attitudes and perceptions about the utilization of digital learning technologies, Camilleri and Camilleri (2017) remark that the teachers were not extremely confident on how to use certain technologies in their lessons.

The investment in digital technologies in Maltese schools included the introduction of web platforms that teachers can use to maintain contact with students outside the classroom. The first of such platforms was Fronter which was introduced in 2011 and became available to all schools by 2013 (Caruana, 2011). Fronter, an eLearning platform which allowed teachers to provide digital content to students to be used outside the school in a blended format, was also accompanied by the MySchool platform which was introduced for attendance keeping and reporting.

Online Teaching

Teaching and learning online has been researched extensively, however the main focus has been on teaching in higher education (Oliver, 1999; Partlow & Gibbs, 2003; Salmon, 2011; Vonderwell & Boboc, 2013). Since adult learners are inherently different from K-12 learners, Kennedy and Ferdig (2018) argue that those aspects of the research on higher education that can be applied to K-12 are uncertain. Most research conducted in the K-12 field explores blended approaches, where the online modality is conducted as an extension of a face-to-face class conducted in a supervised brick and mortar location away from home (Schwirzke, Vashaw & Watson, 2018).

A subset of the research on online learning for K-12 deals with virtual schools. Virtual schools primarily provide supplemental online programs to students who are enrolled in a separate school from the online one. Virtual schools differ from blended approaches since the online tutor does not physically meet with the learners. Since teaching during the times of Covid-19 was entirely online, it is worth looking further into the pedagogy adopted by virtual school teachers as opposed to pedagogies adopted by teachers who blended face to face with online learning. A study conducted by DiPietro (2010) mapped out the instructional practices of K-12 virtual school teachers. DiPietro identified five themes which are central to successful online teaching: connecting with students to establish strong relationships; fluid practice that guide knowledge construction and individualise learning; engaging students with the content to make it accessible to all learners; managing the course by creating a positive experience built on academic integrity; and supporting student success through the sharing of resources with online peers and the support of adult mentors whose role is to maintain communication with both students and virtual class teachers.

Emergency transition to remote online instruction

When schools closed their doors, this occurred as an emergency response, out of necessity and a priority to preserve every learner's right to education. The recourse to emergency education is usually associated with refugees and displaced children in war-stricken areas or countries hit by natural or large-scale human disasters (UNCHR, 2020). However, exceptional scenarios such as the one resulting from the COVID-19 pandemic, impacting the education and training of millions of children and adolescents across the globe, were

largely unimaginable up to a few months ago. Digital solutions were instrumental to counter the COVID-19 crisis, solutions that radically influenced the ways in which “... we learn, teach, communicate, and collaborate within and between our educational and training communities” (Council of Europe, 2020, May 29).

Undeniably, school closures, particularly when they are prolonged due to extraordinary circumstances such as the COVID-19 pandemic, may have multiple effects on the education of a generation of learners. This is largely dependent on various elements. A key factor in determining the effectiveness of online learning is to analyse the level of preparedness for remote online instruction by students and schools. According to the OECD’s Talis 2018 survey (2020a), 49.1% of Maltese teachers compared to less than 40% of all teacher respondents from a total of 48 countries feel adequately equipped to use digital technologies in their teaching. Data extracted from the latest OECD Programme for International Student Assessment (PISA) suggests that in Malta, some of the necessary prerequisites for remote online learning are in place regarding secondary students’ readiness for remote online instruction (OECD 2020b). More than 85% of the secondary students confirm they have a quiet space to study at home with 90% of students having access to both internet as well as to a computer for schoolwork. Similar conclusions cannot be drawn in terms of teachers’ preparedness for online learning – roughly only 60% of Maltese educators feel they have the necessary technical and pedagogical skills to integrate digital technology in their teaching, with the same percentage stating that they are provided with effective professional resources to boost their confidence and capacity to use digital devices. Moreover, less than 50% agree that incentives are provided to integrate digital devices in their teaching (OECD, 2020b).

A major issue that seems to have emerged from the hasty transition to remote learning is that the gap in educational experiences and achievement, for learners coming from disadvantaged families or home environments that are not supportive or conducive to study and learning, may be potentially widened (Caruana, 2020; Council of Europe, 2020; Daniel, 2020). Onyema et al. (2020) identify several effects of school closure during the pandemic. Learning disruption, limited access to learning facilities such as laboratories, reduced funding and loss of interest and motivation in learning are some of the consequences. Moreover, barriers to student engagement in online education for continued learning during the COVID-19 lockdown include

school policies, poor digital skills and the digital divide, unavailability and accessibility, network issues, lack of funding and training, as well as resistance to change (p.118). Beck, Fowler and Brown (2020, p.566) refer to research that indicates the need for teachers to access specific and relevant support systems during times of crisis or emergencies. Daniel (2020) argues that students and parents also need to be reassured and assisted by teachers and schools to ensure participation, access and engagement, while McCarthy and Wolfe (2020) focus on the importance of collaborative efforts between teachers to develop shared lesson plans and detailed schedules for easier access by students and families. The latter are aimed to improve student engagement and reduce confusion through simplified ways of organising their day, particularly for families with more than one child or with children who require additional services. The Council of Europe (2020) highlighted the diverse realities and starting points amongst its member states in terms of digital readiness of educational and training systems – which ultimately demands an understanding and awareness of the “... potential long-term impacts of the crisis on the future of education and training, examine possibilities for innovation and make further efforts to accelerate the digital transformation of education and training systems, and where relevant, boost the digital capacity of education and training institutions and narrow the digital gap” (p.10).

Methodology

Research questions The purpose of this study was to explore how teachers in primary and secondary schools in Malta have responded to the sudden shift to online learning following the closure of all schools as a result of the COVID-19 pandemic. More specifically, this research aimed to gather teachers’ views and experiences on the ways in which they adapted to technology-mediated modes of teaching and learning, considering the abrupt changes they lived through in an emergency situation that did not allow them the time, resources and training usually necessary to be prepared for such drastic pedagogical demands. Consequently our research questions focused on the kind of strategies and approaches adopted, the factors that influenced the pedagogical decisions they made, and the support provided and received during the different phases of the transition to remote teaching and learning. The following research questions are addressed in this paper: What pedagogic strategies did educators in Malta use during the initial phase of the COVID-19 pandemic? How was technology used in schools during the first wave of the pandemic and how confident did the teachers feel using this

mode of teaching and learning? What support systems and collaborative efforts amongst all stakeholders involved enabled or hindered the teaching and learning process during the initial phase of COVID-19 for learners living in Malta?

A questionnaire was devised with the aim to gather first-hand information from Maltese teachers in kindergarten, primary and secondary schools. It consisted of thirty-seven questions, with a blend of closed-ended and open-ended ones. Participating teachers were asked to respond or comment on questions or prompts about the approaches and strategies they adopted when teaching and learning shifted online, the kind of training they attended prior to or as a result of the emergency situation, the level of support and collaboration they received, the barriers and opportunities experienced, the impact online teaching during COVID-19 had on themselves and their learners, and other demographic characteristics. The questionnaire was disseminated on social media using various Facebook groups followed by educators as well as distributed via email by educational entities to the teaching staff in their schools. A total of 448 participants completed the online questionnaire, including kindergarten educators. However, this paper presents only data from respondents teaching in primary and secondary classrooms, which amounts to 407 participating teachers. Closed-ended questions were analysed statistically using Python scripts (McKinney, 2010) whilst analysis for open-ended ones was done qualitatively using thematic analysis (Braun & Clarke, 2006). The combination of statistics and qualitative data provided interesting insights and a more complete picture of the experiences and views of participating teachers on online teaching in the times of COVID-19. The demographics of the respondents is shown in Figure 1.

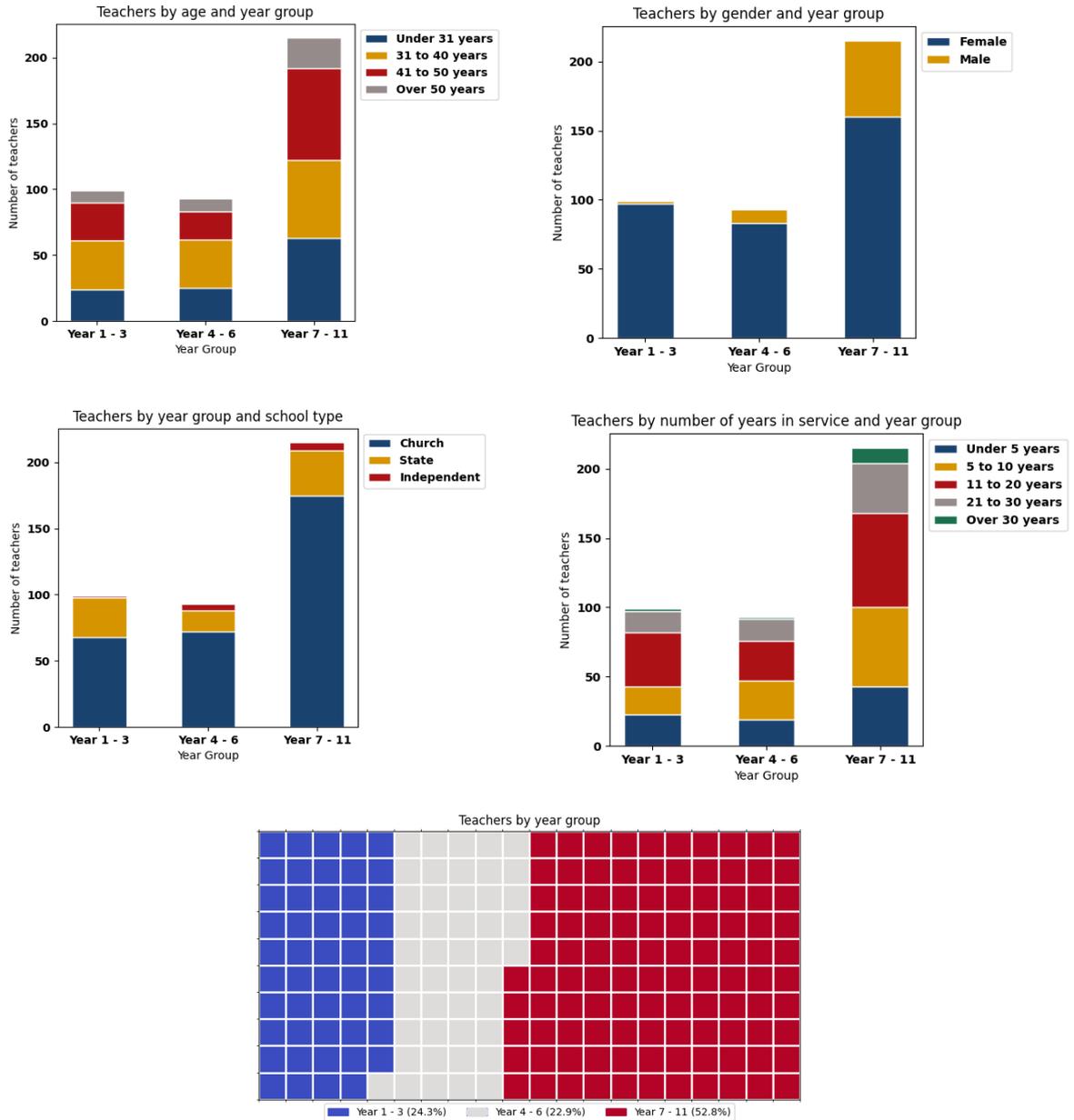


Figure 1 Demographics of the respondents

Results of the Study

Out of 407 respondents, only 5% (n=19) stated this was not their first experience teaching online. Thirty five percent (n=143) of teacher participants confirmed they had previously received training that helped them navigate

through the new COVID-19 scenario. This group included 13 participants who had not only attended training, but also experienced teaching online prior to the pandemic. Most of the teachers (63%, n=258) reported they had found themselves in a completely new territory. Excerpts from the qualitative data provide an insight into individual participants' diverse experiences:

"Too many different learning platforms which is overwhelming ... and we were never trained for this eventuality, so it can be tiring" (Primary School Teacher – Year 4 to 6)

"We as teachers have the opportunity to explore more regarding online teaching, it is a new way of teaching and it is a challenge but in a way it is healthy for our profession" (Secondary School Teacher – Year 7 to 11)

Planning

Asked to indicate whether they spend more time planning and conducting online lessons as opposed to when teaching was done face-to-face within the school premises, the majority responded in the affirmative, with only 11.6% (n=47) stating that the amount of time dedicated to their teaching role had not increased. The time factor was an important variable with a high percentage of responses showing substantial amounts of hours required for evaluating, creating or recording resources. Only 1.7% (n=7) and 12.4% (n=50) respectively pointed out they did not spend time evaluating online resources or creating new ones.

The excerpt below, summarises the feeling of the teacher respondents, highlighting not only the time that went into the organisation and conduct of sessions, but also the conflict between the different roles that parent teachers had to conduct during the pandemic:

"Apart from being required to learn to use Microsoft Teams, too much time was needed for preparation, apart from the fact that one cannot conduct real-time sessions as per timetable, and to top it all, during the day I have to attend to my son's online sessions as well!" (Secondary School Teacher – Year 7 to 11)

Modes of learning

Overall, 72.7% (n=296) of all participating teachers stated they used online real-time communication tools with students, with the rest opting for asynchronous modes of teaching and learning. Figure 2 shows that the highest percentage of teachers using real-time online teaching was reported

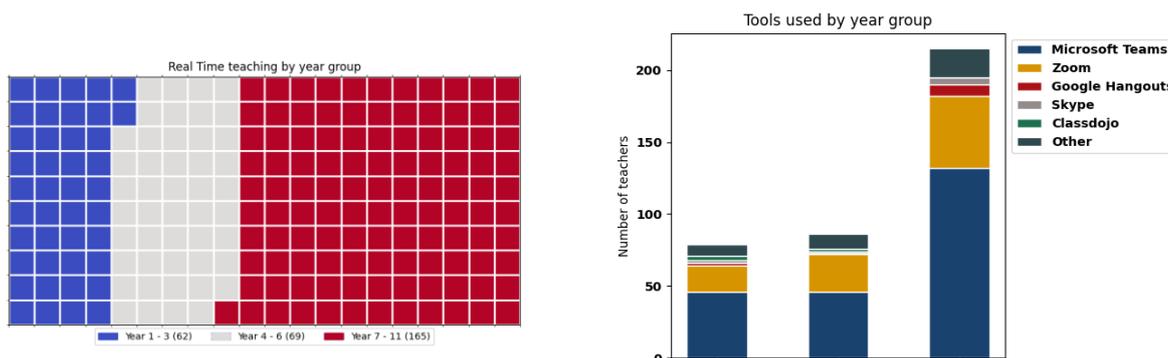


Figure 2 Teachers using real time online mode and tools used by year group

for those working in secondary schools followed by teachers teaching upper primary and then those teaching Year 1 to Year 3 classes. The most popular tool or platform used in schools is Microsoft Teams (40.5%/ n=165), followed by Zoom (11.1%/ n=45). Other tools used include Skype, Google Hangouts, Facebook private groups, Class Dojo, Messenger, Myschool, Klikks or a platform or portal developed specifically by a school. Some used a combination of two or more tools, depending on the purpose of the communication or session. A considerable number of teachers (41.6%, n=123) recorded their online sessions for those who could not join the real-time slot, increasing the chance for more students to access learning. Only 14.2% (n=42) of real-time online users pointed out that they asked students from different groups or classes to join the same real-time session.

Student engagement was mostly evident through the direct communication and interaction that resulted during real-time online sessions. This was deemed to be instrumental by many respondents, who believed that a minimum amount of daily or weekly hours of face-to-face online interaction should become the norm in the case of a prolonged or recurring emergency situation.

“If during the next scholastic year online teaching has to be practised again, I strongly suggest that all teachers (especially class teachers) give LIVE

sessions. This has to be done in a structured way. I feel that it is very important that the students meet their teachers regularly in real time as well - they need to see their teacher and have direct communication with her. However, I also think that we cannot expect our students to sit in front of the computer for a long period of time, especially the very young ones. So this has to be thought out very carefully for it to be implemented in an effective way so that appropriate teaching and learning can occur.” (Primary School Teacher, Year 1 to 3)

“Things will never return as they were before (after the pandemic has passed). We need to encourage a mix of teaching at school and teaching online in order to be prepared for future emergencies.” (Secondary School Teacher - Year 7 to 11)

Resources and the skills to produce them

There are undoubtedly a myriad of strategies and approaches used by some teachers to implement remote online teaching effectively. Some teacher participants used existing online resources whilst also creating new ones that are tailor-made for the needs of their class. Existing material was adapted to make it accessible to all students by adding more detail and information or breaking it down into smaller chunks, particularly for those who may struggle to grasp concepts. Some teachers recorded videos with voiceover explanations or instructions, aimed at students and sometimes their parents too.

Asked whether they feel they have adequate skills to produce audio/video resources, close to half of the participating teachers affirmed they agree (40%/ n=163) or strongly agree (9.3%/ n=38) with the statement, with a 15.2% (n=62) and 9.3% (n=38) of respondents who disagree or strongly disagree. Data also indicates that close to a third of study participants (30.5%/ n=124) feel they neither agree nor disagree with the statement, which prompts questions on the level of preparedness and digital competences of teachers as well as teachers' self-efficacy and confidence. The pedagogy has shifted in that teaching and learning is delivered to a whole group with minimal opportunities for group tasks. Emphasis is placed on ensuring that all students have access to the content knowledge, and that concepts are grasped and understood - the latter is mentioned by a number of respondents who stress the increased need to break down tasks, explain multiple times and

ensure that students and/or their parents comprehend what is expected of them.

“We had to adapt everything for online sessions. Whereas before I used to have more hands-on activities and games, now I have to adapt everything so that the students can access the material. It takes a while to upload the material online on the school platform.” (Secondary School Teacher – Year 7 to 11)

Tablets in years 4 – 6

Surprisingly enough, only 64.5% (n=60) of the 93 respondents teaching Year 4 to Year 6 mentioned they encouraged their students to use their school tablets during online sessions. The rest preferred not to use them, despite the huge investment done. Teacher participants mentioned several factors that influence their preference for not using tablets. These range from tablets being seen as inadequate or inappropriate for remote online teaching, technical glitches, children’s lack of confidence with the use of digital technologies, and the use of the school portal on other devices preferred by students and parents. Those who did make use of the tablets mentioned that they uploaded quizzes, interactive games and links to YouTube videos for the students to use. The students were then asked to take a picture of the work done and send it to the teacher. The following comments taken from data collected from open-ended questions provide a window into some reasons given by teachers not to use tablets:

“I was using tablets at first, but then started using Microsoft Teams. I found Teams easier to use and students also felt more comfortable using it. Teams allows me to communicate directly with students, whereas tablets do not allow such a feature.” Primary School Teacher – Year 4 to 6)

At this point, it is pertinent to note that the tablets in use in Maltese schools have access to a feature called ClassCloud which allows teachers to communicate directly with children similarly to the feature mentioned by the teacher in this quote.

Collaboration with other educators

Less than half of the respondents (45.5%, n=185) stated they collaborated with other teachers when creating resources for online teaching. Multiple reasons

were noted for the tendency to work alone as opposed to practising collaborative work with others. Being the only teacher teaching a particular year group or subject area, lack of time for collaboration, different pedagogical approaches or views and unsupportive environments are listed as reasons for minimal collaboration with other educators. There were teacher participants who expressed their wish for more opportunities to work collaboratively with others, despite indicating that currently this was not happening. Open-ended responses for teachers who collaborated with colleagues teaching the same grade or subject area yielded some interesting insights, highlighting the division of labour, the significance of collegiality and supportive school management team, constant communication between colleagues, and feeling a sense of belonging as they faced unique and unprecedented emergency circumstances.

“We are sharing our resources and we are also splitting the preparation of new resources so as to reduce the work load as well as to avoid any duplication of work.” (Primary School Teacher – Year 4 to 6)

With regards to the participation and involvement of Learning Support Educators (LSEs) in the shift to remote online teaching and learning, 57.5% (n=234) of teacher respondents confirmed that they were joined by them in the transition, with 27.5% (n=112) stating that LSEs did not take part. The rest (15%/ n=61) indicated they did not have LSEs in their class this year.

Teachers also voiced their concern about the kind of support that was provided, expressing both gratitude towards those who were contributing positively and disappointment at others who were not supportive.

“The Senior Management Team members have been supporting me by responding to my queries as quickly as they can and even offered to attend live lesson with the students so that they behave.” (Secondary School Teacher, Year 7-11)

“I am proud of my achievements and of learning these new skills and am happy to be able to communicate with students directly. I think our SMT and individual members of the staff were exemplary but am very disappointed by the lack of support and communication by higher ups who are tasked with directing us and examining our work.” (Secondary School Teacher – Year 7 to 11)

The following data reverberates the benefits of a reliable support system on teacher confidence and wellbeing:

“The school has been very supportive in providing tools which may be used while not restricting us to use those tools only or not having any choice in doing so, they also provided training to those who wished to use a particular platform (and made it accessible straight away), they check in on us to see how we are doing and how we are coping and whether we need any more help or support, they are genuinely interested in knowing which parents are being actively involved in their child's education in this situation (and follow-up on parents who are not living up to this expectation) - super support from the school in this regard.” (Primary School Teacher – Year 1 to 3)

Connecting with parents

One of the prevalent views expressed by the teacher respondents was that remote teaching during the time of the pandemic brought the teachers working in closer contact with the parents.

In truth, I feel I became closer to the parents but am missing my students, even though their parents send me clips and photos of them reading and working on their school work.” (Primary School Teacher, Year 1 to 3)

Teachers made considerations relating to accommodating family schedules when selecting an approach or strategy to adopt. For instance, some believed that asynchronous modes were more effective in increasing the likelihood that a wider pool of learners have access to learning, particularly in homes with working parents and/or households with more than one child, as indicated in the following excerpt:

“Unfortunately, not all students have their own PC or tablet, so since we're living in a situation where everyone needs a device to work, two devices in a family of four will not be enough. I prefer recording lessons and children can follow them at their computers in their own time.” (Secondary School Teacher – Year 7 to 11)

Supportive families made it easier for teacher respondents to feel valued, less stressed as well as effective in addressing and meeting individual learners' needs, whereas a sense of resignation and deep concern for a child's development and wellbeing was evident in situations where parents were not

involved, either due to work commitments, an inability to use technology, a lack of interest in their child's education or other family issues. Some teacher participants also experienced a lack of appreciation and increasingly unreasonable expectations which added pressure and stress to an already strenuous situation.

"I wish some parents showed better appreciation of what we had to go through with no training, because training began two weeks after we started discovering platforms on our own ... lack of manners from parents who demotivate you, parents simply ignore your instructions and send work with which you attached an answer sheet, parents sending comments like ... my daughter hasn't received her feedback and my neighbour did. I correct instantly and they receive correction within less than 12 hours, sometimes instantly but if you send it at 8 pm, for once it should be fine if you get it by 7am." (Secondary School Teacher – Year 7 to 11)

Benefits and challenges in online teaching

Various benefits and challenges experienced as a result of the sudden shift to remote online learning transpired through the data, pointing to the opportunities as well as the difficulties that inevitably arose. Amongst the positive outcomes that emerged, teacher respondents identified teacher empowerment and confidence, collegiality and appreciation of teachers' role and work by families and society at large, which in turn was felt to have led to stronger links between the home and the school in some instances. Online assistance by both technical staff and supportive leaders was also mentioned. Teacher respondents also experienced a broadening of own knowledge and competence with digital technologies, with increased familiarity with synchronous and asynchronous approaches that resulted from the emergency situation.

Conversely, multiple negative consequences were evident, with participants highlighting the lack of preparedness and adequate training or support, particularly at the departmental level rather than the school level, as well increased demands on their time and blurred boundaries between work and family life. A recurring concern was the impact of COVID-19 emergency situation on learners' academic and psycho-social development, and the fear that the gaps in outcomes and opportunities for disadvantaged students would be widened rather than reduced, concerns expressed openly in the following excerpt from the open ended questions of the questionnaire:

“Unfortunately there are more constraints than opportunities. High achievers who have all the necessary equipment and support at home are experiencing more independent learning. But on the other hand, those who don't have any support from home can't cope. For some kids the only safe zone in their lives was school. Living in an unsafe atmosphere will definitely not promote proper learning.” (Secondary School Teacher – Year 7 to 11)

Another negative consequence frequently mentioned by the teachers was how the shift to remote teaching drastically transformed their daily lives and the ways in which they conducted their professional role as educators. The following excerpt from teacher questionnaires captures an early primary school teacher's view on the role of technology in responding to the educational crisis.

“Technology has played an important and essential role in such a difficult time as it helped everyone reconnect and not lose touch, but it cannot replace teaching and learning in class.” (Primary School Teacher – Year 1 to 3)

One strikingly recurrent viewpoint that emerged from the study was the idea that online modes of teaching and learning were a good-enough alternative to face-to-face schooling but not a replacement. Relational, pedagogical and psycho-social factors were mentioned as key motives for a preference and appreciation of 'normal' school life. The following comment written by a primary school teacher sums this up effectively:

“Nothing replaces teaching in school. Teaching students face-to-face is much better and more effective” (Primary School Teacher, Year 1 to 3)

Having said this, teacher participants were able to pinpoint several opportunities resulting from this crisis as well as various constraints such as:

*“Opportunities: to discover existent technology which with some thinking could be integrated even in normal circumstances.
Constraints: the face to face human interaction is missing and essential. Educators do not only teach content but are role models and this is difficult to achieve through online means”.* (Secondary School Teacher – Year 7 to 11)

“All told it's a very stressful and tiring time, I know that I'm doing well with some but not reaching all students, and I have great difficulty switching off to the point of losing sleep at night.” (Primary School Teacher – Year 4 to 6)

Student Absenteeism

A substantial number of teachers (64.9% (n=192) of the 296 real-time user respondents) noted that not every student was able to join real-time sessions due to technical issues on the students' end. These technical issues included problems with internet connectivity and unavailability of digital technologies and devices. Software limitations to connect with the whole class were cited by 13.9% (n=41). Student engagement seems to have suffered during real-time online sessions, with 59.1% (n=175) of teacher respondents stating students were not as engaged as they usually would be in the physical classroom. Overall, there were also issues with absenteeism during online sessions, particularly for secondary school respondents (total of 165 real-time online users), 84.8% (n=140) of whom pointed out that students did not provide a reason for not joining a session, as opposed to 61.3% (n=38) of teacher participants working in Early Primary (from a total of 62 real-time online users) and 60.9% (n=42) of teachers from Upper Primary (from a total of 69 real-time online users).

Experience of using technology during the pandemic

Participants were asked to evaluate their experience using technology to teach in the times of COVID-19. 52% (n=211) of respondents rated the experience as positive, 17.5% (n=71) as negative and 30.4% (n=123) as neither positive nor negative. Some participants commented that even though they considered this experience to be a positive one, it was also characterised by stress and tiredness.

Discussion

As previously stated, a core interest of this research study was in the exploration of the ways in which teachers in Maltese primary and secondary classrooms reacted and responded to the emergency shifting into online modes of teaching and learning following school closures between March and June 2020. In this section we will revisit the research questions in light of the findings outlined above.

Pedagogical approaches and strategies

An eclectic picture of strategies and approaches used became apparent from the wide range of pedagogical decisions made individually or collectively by teachers or groups of educators within and across schools and age ranges. No evidence of a specific strategic or consistent approach to remote online teaching and learning transpired through the data, with teacher respondents falling into two main categories – those who used real-time modes and those who did not. An emphasis or an absence of direct and concurrent communication and/or instruction with learners is seen as the distinguishing feature. Building on the argument presented by Kennedy and Ferdig (2018) regarding the uncertainty in applying aspects of research into online teaching and learning that largely focuses on higher education, it is somewhat difficult to compare current findings from this study conducted with a different age range with similar research studies in literature. Moreover, as previously indicated, studies carried out within K-12 classrooms adopt a blended approach (Schwirzke, Vashaw and Watson, 2018), which is fundamentally distinct from a complete resort to remote online learning. The digital solutions required to counter the COVID-19 emergency situation were quite unique to this global crisis and substantially changed the ways in which learning, teaching, communication and collaboration happens in the educational arena (Council of Europe, 2020, May 29).

Teacher respondents refer to a wide range of strategies and approaches used, developed through a process of trial and error or prior training, whilst applying dormant, active or, at times, previously inexistent digital competences independently or with adequate, sometimes little support from colleagues, technical staff or school leaders. The focus seems to be on the use of effective strategies that enable learning and on the adaptation of materials to make learning accessible online to as many learners as possible. This corroborates with two of the themes identified by DiPietro (2010) for successful online teaching by virtual school teachers where reference is made to ‘fluid practices’ that are used by teachers to guide knowledge construction and individualise learning whilst ‘engaging students with content’ to ensure that the strategies adopted lead to the accessibility of content knowledge by all learners, irrespective of their diverse learning styles. The notion of fluidity and flexibility in a situation that was constantly changing and evolving became evident. The inability to anticipate the duration of the remote online learning situation coupled with the rapid shift to home-based working and learning environments with limited resources available required a high

degree of teacher autonomy, commitment and creativity. Looking at the whole picture, the overall combination of strategies used seems to be never-ending and overwhelming. However, following the initial confusion and adjustment period, teacher participants tended to focus their efforts on those strategies that seemed to work for them as educators as well as for their learners. This permitted a certain degree of consistency in an otherwise difficult and uncertain situation.

Although, as indicated in the results section, there seems to be a preference for synchronous/ real-time online learning, particularly with older students, both synchronous and asynchronous methods were used with varying degrees, at times exclusively or in combination.

Digital competences and technology use

The lack of prior research into the quality and effectiveness of remote online learning for primary and secondary school-aged learners draws attention to the unique and novel circumstances under which teachers in Maltese schools and elsewhere were required to function. Considering that 95% (n=388) of participating teachers stated this was the first time they were resorting to online modes of teaching and learning, and that studies indicate a lack of confidence and preparedness in Maltese educators to use digital technology in a pedagogically sound manner (Camilleri and Camilleri, 2017; OECD, 2020a), the ambivalence with which some teacher participants evaluated their overall experience teaching remotely using technology-mediated instruction was somehow predictable. Some perceived this as being an opportunity for professional growth and a means to renew or use new and innovative pedagogies. Others shared their frustration with the current situation as outlined in the results section above.

Educators' dual role as modelling the use of technology and at the same time possessing teaching specific digital skills as identified by Redecker (2017) was visible in participating teachers' responses. Firstly, several participants emphasized their confidence or lack of it in using digital technologies available, and thus indirectly refer to their task to act as role models and competent digital users for learners and their families. Secondly, several respondents bring up issues related to pedagogical approaches adopted when using technology as the principal medium for learning and communication, thus the teacher-specific digital competences needed for the effective use of digital technologies in teaching and learning. Although only 8.1% (n=33) of

all respondents perceived the transferring of their profession to a remote online modality as negative, one cannot ignore the facts that 65% (n=264) felt they had not been satisfactorily prepared for this through training, and that only 49.3% (n=201) agree or strongly agree with the statement that they are competent in creating online resources to build and supplement their online pedagogy. Also, from the 35% (n=143) of teacher respondents stating they had received prior training that assisted them to deal with this situation, open-ended responses by these teachers still pointed to constraints and difficulties they inevitably experienced and the arising need for more specific training and professional development opportunities and initiatives.

The notion of teacher empowerment and a developing confidence and familiarity with the use of digital technologies and practices was also a recurring argument in teacher responses, particularly those who were evidently making conscious efforts to take up the challenge of successfully reaching all learners by using and improving their educator-specific digital competences. In line with findings from Beck, Fowler and Brown's study (2020), a more positive outlook was observed in teacher respondents who felt they were supported by others or had access to specific and appropriate support systems during the pandemic as opposed to participants who indicated that little or no support or focused training was provided.

The European picture presented by the Council of Europe (2020) in the 'Draft council conclusions on countering the COVID-19 crisis in education and training' is resonated in the voices of Maltese teachers who undoubtedly signpost the diverse realities and different starting positions of Maltese schools in terms of the digital capacity, readiness and support.

Interactions, connections and communication

Establishing relationships with learners, families and colleagues during the emergency transition into the novel situation created by the pandemic became a priority for teachers and schools effected by the physical closure of schools.

Teacher-child relationships were said to be deeply affected by the shift to online teaching and learning. The adverse impact of a total reliance on technological devices and remote online practices on learners and learning was frequently mentioned, particularly for those coming from difficult or disadvantaged backgrounds. Participants expressed concern about the

number of learners falling through the net or living in challenging, abusive or deprived environments, a finding which parallels similar concerns shared nationally and globally (Caruana, 2020; Council of Europe, 2020; Daniel, 2020). Reaching out to these learners became problematic and those who highlighted this issue pointed to the need for school leaders to develop accountable ways of ensuring that every learner's right to accessible education is defended.

Moreover, teachers voiced their views on parental involvement. Several teacher participants observed a stronger connection between the school and the home developing as the roles of teachers and parents were transformed or overlapped (Farrugia and Busuttill, 2020). Echoing the state of affairs documented by Grech and Grech (2020), teacher participants were aware of the disruption of ordinary life and routine for families with young children or adolescents and planned their teaching interventions by either offering asynchronous sessions or recording their real time sessions.

Participants pointed to the impersonal nature of remote online learning, particularly, though not exclusively, when it solely involved asynchronous approaches. Teaching from behind a screen, giving instructions, using online resources and online communication can be effective in facilitating learning to a certain extent. However, teachers' voices echo the view that education is more than the imparting of content knowledge or the filling of worksheets and exercises. The centrality of relationships, the need to observe children's responses and reactions as they experience learning, the importance of providing feedback and assessing children's learning as well as the significance of learning through social interaction using innovative and creative pedagogies were identified as constraints that hindered the process of learning with their absence from remote online learning. Also, some of the barriers to student engagement mentioned by teacher participants such as the absence of clear guidelines and a coherent school policy, poor digital skills, unavailability of technology or issues with accessibility and connectivity concord with those put forward by Onyema et al. (2020).

A relatively positive COVID-19 professional experience was perceived by teacher respondents when collaborative work with colleagues was indicated together with the existence of support systems, both of which facilitated a smoother emergency transition for some teachers. Although less than half of the respondents indicated that they collaborated with other colleagues to

create online resources, a finding which in itself triggers a set of interesting questions and implications of a still largely solitary and segregated profession, or the fact that many shared their concerns regarding intensified stress, increased demands, and the tendency to be left to their own devices as they navigated new waters, inevitably calls for school and team leaders at all levels to create better conditions for team work, cooperation and collaboration. In the case of schools that were managed by supportive and inspirational leaders who provided training, communicated constantly, and encouraged them to work with others and to seek assistance where necessary, teacher participants commented on the sense of belonging, collegiality, and effectiveness in turning the difficulties into opportunities for the benefit of learners, families, themselves and their colleagues

Conclusions, Limitations and Recommendations

In recent years, efforts to modernise and align educational provision with changing societal and occupational needs and circumstances were translated into a push for an increase in the use of digital technologies and for blended and more innovative modes of teaching and learning that are technologically mediated. In normal circumstances, a similarly conceived educational mindset shift takes place gradually and strategically to ensure optimal planning, training and delivery of widespread learning experiences. A pandemic, however, does not wait for countries or educational authorities to prepare themselves adequately for new ways of living and learning. Undoubtedly, nobody envisaged an abrupt and total shift to remote online instruction modes on such large national and international scales. To this effect, this research study aimed to document Maltese teachers' voices on their response to the shift to online modes and to analyse the key issues that emerged. It has brought forth interesting pointers that shed light on what was happening across the Maltese islands as leaders, teachers and families faced exceptional circumstances and sought to provide children and adolescents with a degree of continuity of educational experiences. After outlining the limitations pertaining to this inquiry, several conclusions are drawn and the implications for policy, leadership, educational practice and research are presented hereunder.

Although the study yields invaluable insights into the 'new normal' of educational practice in Maltese schools during the COVID-19 lockdown, findings should be taken in light of three limitations. First, the duration and

effects of the pandemic were still ongoing at the time of the data collection, analysis and writing so that newer perspectives would be expected should this study be redone. Secondly, the questionnaire itself was limited by the amount and the depth of the questions asked. Thirdly, the views and perspectives gathered may not be representative of the general population of primary and secondary school teachers, since the questionnaire was voluntary and shared mainly on social media, with only some institutions disseminating it through their official channels of communication.

Overall, teacher participants' response to the sudden shift to remote online teaching was largely dependent on the availability of suitable platforms and tools, prior and emergency training, existing support systems, digital skills, teacher beliefs and confidence with technology, age of their learners as well as their personal and familial situation. Prior investment and funding in technology by Maltese authorities proved to be to a large degree ineffective in the face of a calamity such as a pandemic since teacher participants highlighted the shortage of adequate technology and technological devices, both from their own and the learners' end (Digital Malta, 2014; DOI, 2016; European Commission, 2019, 2019a). Moreover, there was also a general impression of a shifting of goalposts for Maltese teachers, whose prior and/or recent training and professional development did not prepare them for a more sophisticated set of competences required to tackle technology-mediated learning.

The diversity in digital solutions adopted by different teachers and schools pointed to the need for a more strategic and consistent approach within and across schools. This study also signalled the dire need for Maltese educators to be guided by a formal Digital Teacher Competency Framework to be at par with other European Union member states (Redecker, 2017). Initial teacher training and continuous professional development (CPD) will need to be renewed in view of the likelihood of future emergencies. Findings also indicate that more advanced digital skills for remote online teaching that is pedagogically sound, innovative and sustainable are required to effectively address the twenty-first century skills. Moreover, investment and funding on technology-mediated learning must be matched by adequate and high-level training that is needs and interest-based, giving teachers and educators a voice and a say in determining what kind and mode of training to attend. The current study also highlighted the salience of an educational culture of collaboration, cooperation and reliable support systems at all levels for

successful educational practices. The findings pointed to the need to prioritise the overall wellbeing of children and adolescents, their families and their teachers when policies are devised and implemented or when decisions are taken by the authorities and educational leaders. Parental involvement cannot be kept on the periphery or done superficially in circumstances where it was evident that their cooperation and participation became indispensable as much as it was indisputable. An investigation into the current levels of attainment of all learners, with a focus on identifying strengths as well as gaps in learning or areas that need to be addressed is called for to counteract or mitigate the impact of COVID-19 pandemic on the learning of a whole generation of children and adolescents, currently attending primary and secondary schools. Finally, while the current study provides a unique snapshot of Maltese teachers' response to the sudden shift to online teaching and learning during the pandemic, future research should focus on gathering the views of other stakeholders who impacted or were impacted by the emergency transition into technology-mediated learning, including the voices of parents, learners and leaders.

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