Teachers and Technology: The Stories of a DEIS School's Experiences During a Global Pandemic

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Dedication;

I would like to take this opportunity to thank my work colleagues in Larkin Community College and Principal Thomas Usher for always being kind and supportive, it is a wonderful school environment to work in.

To Ita Kennelly, my supervisor, thank you for your patience and wisdom, it has been an absolute pleasure and honour working under your guidance.

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Glossary of Terms

COVID-19 – Coronavirus disease of 2019

CPD - Continuous Professional Development

DEIS - Delivering Equality of Opportunity in schools

DES - Department of Education and Skills

ETB - Education and Training Board

ERT - Emergency Remote Teaching

ICT – Information and communications technology

NEIC - North East Inner City

P-Tech - Pathways in technology

Abstract

Teachers and Technology: The Stories of a DEIS School's Experiences During a Global Pandemic

This dissertation contributes to the understanding of a particular DEIS school's teachers' experiences of teaching and using technology during the global pandemic COVID-19. It provides an examination of different emergent themes (barriers, challenges to social context and connectivity, and transformed pedagogy), through a review of literature both pre and post Covid regarding teachers and technology, whilst also linking in relevant Irish policies and frameworks that create a contextual background for the study. The aims of the research were to explore the stories and voices of individual teachers in a particular school, during the global pandemic and co-construct and situate their stories as part of a wider picture, whilst gaining understanding and insight into the experiences of this DEIS school. The study involved interviews with seven teachers from an inner-city Dublin DEIS post-primary school.

The narrative methodology that is adopted in this research is experience centred, that has an emphasis on temporality, society and place (Clandinin & Connelly, 2000), with an awareness of who the participants were and the context in which they experienced this. This in turn allowed for reflective practice about experiential learning to occur and an examination of transformative experiences of the collective participants through co-constructing their stories. Themes that emerged from these stories through applying Braun and Clarke's thematic analysis were the following; continued duty of care, evolving emotions, barriers, evolving learning environment, adapting professional identity. Similarities to these themes were evident within current literature and it is clear that for technology to continue integrating meaningfully into education, in DEIS schools, a need to examine the barriers such as access to devices, funding, teacher-self efficacy and training needs to continue to be addressed in future Irish policy documents and frameworks.

Keywords: DEIS, Teaching, Technology, COVID, Professional identity, Online teaching and learning.

Chapter 1: Introduction

1.1 Introduction

As a secondary school teacher, teaching in an inner-City DEIS school, my interests were piqued with the rapid changes that were happening with teaching, learning and education due to the global pandemic; COVID-19. I, myself had to adapt to a new way of teaching and connecting with my students utilizing technology and having to spend my days staring at a screen instead of in front of a classroom of teenagers and this made me reflect on my own practices as a teacher and my own professional identity. I would have a strong interest in technology and a willingness to try new devices or applications, but I am aware this is not the case with all teachers, that there is a push towards 21st Century skills for our students and as staff we need to be able impart this knowledge. The global pandemic has certainly accelerated the need to embrace technology and with my research I wanted to focus on the experiences of others in my school. I felt this would give an insight into how as individuals we managed during this time period and as a collective staff it would illuminate any common experiences or needs that could be addressed to better enhance the school's practice and use of technology. I felt it was important to take this opportunity to reflect and understand, because the situation was so unprecedented, so as not to lose the valuable learning experiences that have occurred.

This chapter will give insight into the background of the research topic, detailing the school context in which the study was conducted, what it means to be a DEIS school, and the P-Tech programme that has been recently introduced into this school. The research question and the rational for the research will then be detailed, followed by the purpose of this study. The research aims will then be presented, with the expected outcomes then explored. The need for this study will be examined. An outline of the dissertation will conclude this chapter.

1.2 Background

1.2.1 My school Context

This research was conducted within my own school context, Larkin Community College, an inner-city Dublin school that falls under the DEIS (Delivering Equality in Schools) category, this school is under the care of the City of Dublin ETB (Education and Training Board).

I have worked in this school since 2017, and within the City of Dublin ETB since 2015. The school opened in 1999, and is co-educational, located only a short walk from O'Connell Street. The school offers students the opportunity to learn in a positive learning environment, with programmes developed for their needs and abilities, including an Arts scholarship, Basketball scholarship, Soccer scholarship, mentorship programmes, P-Tech Programme, and Junior Certificate Schools Programme (JCSP) among other programmes. The school offers the following courses; Junior Certificate, Leaving Certificate, Leaving Certificate Applied and Transition year.

During COVID-19, the school has continually strived to adapt to new online platforms and government guidelines for within the classroom to keep students and staff safe, whilst maintaining a positive learning environment. Staff were offered online training on numerous occasions to upskill and develop their understanding of Office 365 and the different applications available to us through this service. Students and Staff that did not have access to a device to connect with the learning platforms were given devices to use during school closures to enable them to access learning platforms. A donation of 50 laptops was given to the school during the pandemic, this was reported in national newspapers. There was a clear shift towards the need to rely on technology more, both inside and outside the classroom, it reduced the amount of paper produced and the physical contact of collecting students work. Students were able to send their work digitally to their teacher via Teams for

correction and feedback. Guest speakers were facilitated through video conferencing (Zoom or Teams). Students were given base classrooms and assigned seating.

1.2.2 DEIS

DEIS stands for Delivering Equality of Opportunity in schools, in 2005 it was launched by the Department of Education and Skills. It is a national programme designed to address the educational needs of children and young people from disadvantaged communities. In the academic year of 2020/2021, 887 schools, 689 Primary and 198 Post-Primary schools, were included in the programme.

Schools under the DEIS Programme benefit for additional resources, this includes funding, additional staffing, assistance with activities and access to literacy and numeracy programmes. DEIS schools are part of the School Support Programme (SSP),which provides interventions such as the School Completion Programme, and Home School Community Liaison Scheme.

The DEIS Plan was updated by the Department of Education in 2017 and plan builds on the five key goals that are presented in the *Action Plan for education 2016-2019*. There is a focus in DEIS Plan on the student's experience and of the learning outcomes and objectives achieved to enable better outcomes for students, for increased literacy and numeracy, for school retention and completion, and for student progression to further education. School leaders and teachers are encouraged to adapt to their student's needs, utilising resources available to achieve these outcomes and experiences for students learning.

The Global pandemic certainly affected students from disadvantaged areas, (Devitt 2020, Fhlannacha, 2020), but allowed teachers to use the resources available, or develop resources to better meet their students' needs, through the integration of technology into curriculum, assessment, classwork and for communication, enabling a different learning experience to occur.

1.2.3 P-Tech

The P-Tech (Pathways in technology programme), is a new initiative and was launched in Ireland in 2018 by the Department of Education and Skills (DES) in three schools in Dublin city in association with Dublin's NEIC (North East Inner City).This programme aims to tackle educational disadvantage and increase the numbers of students either finding employment in competitive entry level digital skills roles or progressing to higher education, it affords students the opportunity to forge a future career in the digital economy. This programme focuses on the areas of Coding, Programming and Robotics in Junior Cycle. It enables students to develop their problem-solving skills, enhance creativity and prepare future generations for our ever-evolving technological world.

Given the recent closures in schools and move towards technology based teaching, I felt it would be an invaluable opportunity to look at the teacher's perspective and experience in using technology during this time; How are we as staff able to problem-solve, enhance creativity and prepare ourself for the ever-evolving technological world and hence deliver these skills onto students. See appendix 4 for P-Tech information leaflet.

1.2.4 Policy documents

Policies around ICT in education has evolved steadily over the last decade, there has been a steady drive towards ICT implementation into the classroom, into the curriculums and for teachers to identify areas of need in their own professional development. There is an increasing awareness for the need for students to be more digitally literate, noting that this will enable them to contribute to an everchanging digital global economy. The role of policies in influencing teacher's self-efficacy, identification of areas of need and use of technology in their practices and schools is important in the context of this research, as these policies, frameworks and drive towards ICT are significant in teachers' previous and current experiences of technology use during the pandemic, the acceleration of technology use, along

with how these experiences may influence policies in the future.

The ideas mentioned above that drive ICT implementation such as the need to be more digitally literate are clearly seen in *Investing Effectively in Information and Communications Technology in Schools, 2008-2013,* through the objectives laid out, for example; *"Innovative practice and research. **Objective** 7*: To ensure that our vision for digital technology in education becomes and remains vibrant, relevant and at the forward edge internationally" (p. 25). These objectives were then built on further in *Digital Strategy for Schools 2015-2020*, to continue this move towards digitization and use of technology in schools.

These policy documents generally focus on two dimensions, "teaching and learning" and in "leadership and management", which incorporate learning outcomes, experiences, individual practices and school approaches.

It is interesting to note that *Looking at Our School 2016,* in the teaching and learning dimension of this document, in Domain 4, it looks at teachers collective or collaborative practices. It states that teachers are to

> value and engage in professional development and professional collaboration work together to devise learning opportunities for students across and beyond the curriculum collectively develop and implement consistent and dependable formative and summative assessment practices contribute to building whole-staff capacity by sharing their expertise. (p. 13)

This document details statements of effective and highly effective practice, and is quite clear on these standards. However, to achieve such standards on a continual basis, and to maximise the effectiveness of collaboration for enhancing practice, student learning and outcomes, a greater provision of time is needed for such collaboration, and this could be looked into further post-Covid to enhance the learning through experience achieved by teachers during

this timeframe and to further embed good and effective practices in schools. A list of relevant documents are presented in the literature review and examined alongside relevant themes and concepts within the wider literature.

1.3 Rationale

As the school moves towards promoting the upskill of students to enter the digital community, it would be prudent to look at the diverse teacher population of the school and their attitudes and experience navigating the online and technology based teaching during this pandemic. In the background of all this are the implementation of the following national strategies, plans and frameworks from the Department of Education and Skills (DES), as well as all the circulars issued around guidelines for remote teaching and return to school since March 2020. These have all had an influence on how technology was and is to be implemented in the classroom, such as through teacher engagement with training, more funding and access to devices for students, greater broadband services in schools, meaningful resource creation to compliment curriculum learning and assessment. The development of these documents shows an understanding of an ever-growing need to meet the demands of an ever-changing technologically advancing society and to equip students to be digitally literate and have key 21st century skills that will benefit themselves and society.

1.4 Purpose

The purpose of this study is to gain some meaning and understanding from an unprecedented experience in education caused by a global pandemic. The suddenness of it, the unknown caused by it, the changing to how schools operate, communicate, the teaching and learning that occur was in a state of flux, with stops and starts, closing and opening of schools for safety. There was fear, confusion, relief, frustration and many more emotions caused by this transitional state in education. Technology was suddenly very vital in maintaining the learning environment and the school community. This is an experience like

no other that has occurred in education. It changes the story behind education, behind schools, behind classes and their learning environments, behind teacher identity and practice. The purpose of this research is to capture this experience in my own immediate school setting and look at the individual stories that occurred behind the screens and classroom doors, and offer insight and a means to discussion and reflection through the collective experience of a DEIS teacher's perspective by the construction of these stories into a narrative experience. I chose the methodology of Narrative research as it aligns with my research question, as Narrative research aims to explore human experience in more depth and to look at the meanings people assign to their experiences, both personal and social (Clandinin & Connelly, 2000). There is an emphasis on gathering data through story and to provide an opportunity for participants to make sense of and recount their experiences during lockdown and reopening of schools. "Narrative researchers work with small samples of participants to obtain rich and free-ranging discourse" (Farrow et al., 2020, p.55), with this in mind, data was gathered through semi-structured interviews with seven participants which had a set of questions designed to encourage stories of experiences. In this type of research, interviews are longer and produced more detailed transcript that require analysis, I chose to transcribe these myself to aid the process of applying Braun and Clarkes'(2006) steps of thematic analysis and gain greater familiarity with the stories being told.

It is noted that the narrative approach can be used as "a frame of reference, a way of reflecting during the entire inquiry process, a research method, and a mode for representing the research study. Hence, the narrative approach is both the phenomenon and the method" (Moen, 2006, p.2), I think this is very appropriate as the purpose of this research is to reflect on the experience. It was hoped that these interviews would provide a safe space for teachers to express their feelings and learning journey about this experience and also provide a platform for them to express their ideas for progression with technology as we continue to

educate the youth to be digitally literate, highlighting any issues, concerns or ideas about the use of technology in this education setting. Ultimately co-constructing the answer to what this experience of teaching was like, how teachers have adapted, developed and coped during a transitional period of teaching and what insights are there to gain from this.

1.5 Research Aims

The title of my research is the following; 'Teachers and Technology: A DEIS schools' experiences during a global pandemic'.

The aim of the research is to document the story of an inner city DEIS school teacher's experiences with technology during the first school closure, re-entering the classroom in September 2020 to a second closure. I believe this is especially prudent to examine given the digital divide that occurs with the student cohort and the difficulties COVID19 has produced for DEIS school students (Mohan et al., 2020). The main research question being addressed will be what were participants' experiences of teaching and the use of technology during Covid-19.

This work aims to highlight the strengths, resilience, reflectiveness of educational practitioners and afford them a voice in describing their navigation, self-development and experience of an accelerated need for technological use in the educational setting. The overall research aims to depict the story of the teachers within this school in an attempt to gain understanding through the process of interview and co-construction of information presented in the findings and discussion chapter.

1.6 Expected Outcomes

As the researcher and as a teacher, I expect that my own understanding of the complex situation in which teachers have found themselves in during the pandemic, will grow, gaining an understanding of others experiences; barriers that have had to be overcome, the emotions that others have gone through during this, the knowledge they have gained and

what it is they hope for in the future of education and the use of technology within this system. I expect that participants will gain something similar from this and that as a school community that we can take this learning to further progress and identify the individual needs within our school. Therefore it is expected that research knowledge and understanding that is co-constructed through the narrative process and thematic analysis, will benefit students, teachers and the school community. It will enable useful and honest conversations about the learning during the lockdown to continue to occur after the research. Participants themselves will benefit as they are involved in the co-construction of this knowledge and it provides a platform for them to process and reflect on their experience and may be useful for them to make sense of this experience.

It is expected that an insight into teacher's perceptions of technology; its current and future use in education and teaching, and upon reflecting on their experiences that this will become apparent through this process.

1.7 Need for the study

There are limited studies looking at the experience of teachers working in DEIS schools in Ireland, and given the current global pandemic, it would be prudent to capture their experience in some way. There is a greater need for the Irish post-primary teacher's voice to be heard and it is noted that teachers should be a part of policy making and that there are opportunities that have arisen because of Covid 19 to reorganize policy, people and programmes to work more collaboratively and more effectively in both our education and community settings (Berry 2020). There is a need for a greater shift in Irish education to allow education stake holders to work collaboratively, to share knowledge gained from this experience and further develop best practices. This study provides an opportunity to revisit current policies and frameworks regarding ICT in post primary schools, to further scrutinize it in the DEIS school context and then perhaps do further research into different school

contexts to better aid adaption and understanding of technology in schools, how to best support teachers, students and school management to best utilise and determine what exactly are the needs based on school context.

1.8 Outline of the Dissertation

This dissertation will present a literature review in chapter two that looks at teachers and use of technology, pre and during the pandemic period, linking Irish policy documents when there is an alignment of ideas, this literature review will also look at some theoretical underpinnings presented in the literature, or that are appropriate such as experiential learning (Kolb, 2007, Dewey 1925, 1938 and Vygotsky, 1978), and transformative education (Merzirow, 2006, 2008). I identified the following themes that emerged from reading the literature; barriers to implementing technology, challenges to social context and connectivity through technology, practices in pandemic; pandemic transformed pedagogy.

In chapter three, I will outline the methodology , I will discuss the choice of interviews as a research method for this research and discuss how these were conducted, outlining the steps and decisions undertaken during this process including the use of a reflective journal. I will outline my understanding of Narrative as a methodology, as well as detailing ethical considerations and limitations that I noted during this process.

In chapter four, I will present the Findings and Discussion, as this is a narrative piece I will include extended excerpts from interviews conducted, these will be referred to as interviews one through to seven, it is hoped that this will achieve a story-like presentation of the experiences of the teachers interviewed and a co-construction of meaning through the discussion of the themes. Irish policy literature where particularly relevant to a concept have been mentioned to allow background context to emerge. Through use of thematic analysis (Braun and Clarke, 2006) the following themes emerged and are discussed in this chapter; evolving emotions, barriers, adapting professional identity, continued duty of care, evolving

classroom environment. These themes have clear links with literature around the topic of teachers and technology as detailed in the literature review, and I have made links where appropriate in the findings to aid the discussion of the themes that are presented from the analyzing the interview transcripts.

In the final chapter, I conclude the dissertation, highlighting important concepts that were explored and offering a suggestion on to where this information might lead to in Irish education, along with suggestions for further research. I also offer a reflective note on the understanding that this research and experience has afforded me.

Chapter 2 Literature Review

2.1 Introduction

The global pandemic COVID-19 has caused a massive shift in education from teaching in person to adapting to the unprecedented circumstances of teaching remotely online. My research looks at the experience of secondary school teachers in a DEIS school and their experience of teaching and using technology during the global pandemic. This is a highly topical piece of research and there is currently a myriad of literature being produced on different aspects of teaching during Covid; the use of technology, factors that influence the implementation of technology, perspective of students and of teachers, and what these experiences mean for education in the future.

Much of the research that I have encountered so far, König et al. (2020), Babic et al., (2020), Stenman, (2020), Chagas, (2020), Coyne et al., (2015), Devitt (2020), and Grande-de-Prado et al., (2020) are quantitative studies. The majority of research conducted around the area of teachers and their use of technology, both pre and during COVID-19, employing quantitative measures to collect data, determining factors that influence without delving further into the experience or context around the experience, providing a limited picture of the entire context. My research question looks at the experience of teaching and utilizing technology, taking a qualitative approach, using this literature review as an opportunity to create a greater understanding around the shared global experience of educators, the influencing factors and common themes that emerge, whilst also looking at the policy context that drives Irish education into becoming more digitally literate with integrating technology into the classroom and curriculum.

In the background context of education in the Irish context are the policy documents, national strategies, plans and frameworks that have been implemented over the last few years. These have a direct impact on the integration of technology and digital learning in Post

Primary schools. Understanding the movement towards implementing these strategies is important to having a better understanding of the setting in which this research has taken place in and how it aligns with some of the key concerns and ideas presented in academic literature that has been produced as a result of covid and as a result of a global shift towards technology use in schools.

The following documents published by the Department of Education and Skills (DES) are particularly important into gaining insight into the Irish context;

- Investing Effectively in Information and Communications Technology in Schools, 2008-2013 (ICT Strategy group, 2008)

- Digital Strategy for Schools 2015-2020 (DES, 2015)

- Looking at Our School 2016 – A Quality Framework for Post Primary Schools (DES, 2016)

- Action Plan for Education 2016-2019 (DES, 2016)

- DEIS Plan 2017 (DES, 2017)

- Digital Learning Framework for Post Primary Schools (Cosgrove et al., 2019)

This literature review will focus on relevant academic literature around online teaching and the natural shift towards using technology in the classroom that has been emerging globally in recent years to meet educational and economy needs, as well as looking at these in conjunction with Irish policy and framework documents. This is to create the context in which integrating technology has come about in Ireland and how it situates in wider literature.

This shift towards integrating technology more into education is evident in recent Irish policy documents, as listed above, and the overall research aims to look at this current experience, as well as place it in its Irish context, observe it through global literature and similarities found, understand the experience and co-construct meaning from it, and look

towards where do we go next with education having had this experience, what exactly are we taking from it.

The following themes became evident whilst analyzing and reviewing a variety of literature produced pre-Covid and during Covid. The following themes will be explored in this literature review;

1) Barriers to implementing technology

 2) Challenges to social context and connectivity through technology

3) Practices in the Pandemic (pandemic transformed pedagogy)

These themes are all interconnected and interdependent and will be discussed and analyzed so as to meaningfully and appropriately make the connections between these concepts as they are all integral parts of exploring my research question of the experience of teaching and using technology during the global pandemic COVID-19.

2.2 Barriers to implementing technology

Implementing technology into education has always faced several barriers and continues to face these barriers despite a global drive towards technology integrated teaching and a move towards imparting 21st century skills in education. There is extensive research on teacher competency, self-efficacy and ability to use and integrate technology into their classroom context (Konig 2020, Babic et al., 2020, Fhlannchadha 2020, Devitt et al., 2020, Grande-de-Prado et al., 2020, Stenman 2020, Scully 2021). School leaders are generally in favour of this integration of technology into schools (Fhlannchadha, 2020), but it requires the buy in from both staff implementing it and the students utilizing it. Appropriate training is required to ensure staff feel confident in utilizing technology in education (Grande-de-Prado et al., 2020, Devitt, 2020), this is also noted in Irish policy documents, however despite this access to training and a promotion of technology and digital learning a stigmatism about face

to face teaching trumping any sort of online learning remains (Hodges et al., 2020, Fhlannachadha, 2020).

An important and essential common factor to successful implementation of technology and digital tools during worldwide school closures and online teaching is the teacher's own digital competency. Many studies worldwide have been conducted pre-Covid and during about teacher's digital literacy, competency, self-efficacy and attitudes towards technology (Konig 2020, Babic et al., 2020, Fhlannchadha 2020, Devitt et al., 2020, Grande-de-Prado et al., 2020, Stenman 2020, Scully 2021). There is a clear understanding globally the role the teacher plays in the successful implementation of technology in the educations setting and that a lack of confidence and or limited training results in barrier to implementing it effectively and sustaining it in the long term (König et al., 2020).

The *Digital Learning Framework for Post Primary Schools* (Cosgrove et al., 2019) follows on from *Digital Strategy for Schools 2015-2020 Enhancing Teaching, Learning and Assessment* (DES, 2015), with the aim of offering clarity to teachers of how they can successfully embed digital technologies into their current practices. The objectives aligns with the domains of *Looking at Our School 2016 – A Quality Framework for Post Primary Schools* (DES, 2016) and complement the School Self Evaluation (SSE) process, noting again that domains of 'teaching and learning' and 'leadership and management' have a direct impact on the experience and learning outcomes of the student. A claimed benefit of the digital learning framework is that it will aid schools and individual teachers in identifying, and planning in addressing their needs in the area of digital technologies through continuous professional development (CPD), giving schools and teachers the ability to take ownership of their own improvement and development in this area (Cosgrove et al., 2019). This highlights an awareness in the Irish context of teacher ownership in engaging with appropriate professional development in implementing technology.

It is pertinent to look at studies conducted outside of Ireland as well to gain a greater understanding of the global context and the universality of the barriers faced by teachers implementing technology in the online classroom and physical classroom. Grande-de-Prado et al., (2020) study aimed to examine the potential relationship to gender, of primary education teachers in training in Spain and their self-perceptions of digital skills. The COTAEDU digital competence questionnaire which was developed based off the well-established COTASEBA questionnaire (high school students questionnaire of technological competence) was used in this study, the use of such would add to the confidence of the comprehensiveness of the data obtained. A limitation of this study is that it measures perceived digital competencies rather than actual measurable digital competency. The study concludes that the digital competence of teachers is fundamental in ICT implantation in schools and classrooms.

Babic et al., (2020) inspect the predictive factors of Croatian secondary school teachers' future plans to implement e-learning technologies in their classrooms after the COVID-19 pandemic through the use of an online questionnaire that utilised a Likert scale. This quantitative method is effective in capturing a larger audience and providing general indications as to the potential barriers that may hinder the progression towards e-learning post-Covid. The following were determined to be related to perceived intention of Croatian teachers' implementation of e-learning technology in the future; computer anxiety, attitudes and educational values, self-efficacy, previous knowledge and experience with e-learning technologies, course characteristics and pedagogical and education use of ICT. These barriers that are presented by Babic (2020) align with research conducted by Konig (2020) and Devitt (2020), both studies also used quantitative methods with surveys with Likert scales in Konig's survey and Devitt using scales from instruments that had already had established validity and internal consistency. Teacher self-efficacy then had a knock on effect on student

engagement as noted by Devitt (2020) that teachers who reported low self-efficacy, were also more likely to report lower levels of student engagement, and that "teachers in DEIS schools reported significantly lower scores" in self-efficacy and student engagement "than non-DEIS teachers. The significance of these findings is compounded by the recognition that home support is a key barrier to student engagement in DEIS schools"(p. 68) and highlights the central role teachers have in student's continuity of education.

Familiarity with digital platforms being utilized has also caused barriers to online education during remote teaching, this is intrinsically linked with teacher and student confidence with using the technology. Fhlannchadha's (2020) article which draws their information from DES reports, makes an interesting point that there was a discrepancy between primary and post primary schools' abilities in adapting to distance learning, variances in practices, student familiarity and use of digital platforms before school closures. This highlights the huge discrepancy between teacher and student's ability to adapt to the new online platforms used for teaching, indicating that student and parent familiarity with digital platforms, student confidence and competence with digital technologies, access to reliable broadband and devices also plays a role in creating a barrier to implementing technology. This issue with reliable broadband is noted in an Irish study conducted by Coyne et al., (2015), through the use of an attitudinal survey, that was in light of Ireland's National Digital Strategy; high-speed broadband roll-out to all second level schools to aid a greater use of ICT in education. This study provides a valuable insight into the context of Irish schools broadband issues and teachers' perceptions before the associated policies came into place. There is an extensive literature review completed highlighting relevant policies within Ireland and Europe, which highlights the universality of broadband issues, that have influenced this National Digital Strategy. This piece notes that theoretically, increased broadband access and speeds should allow for pedagogies and behaviours to adapt, integrating more ICT into

education and that other research notes that it is a gradual process for educators and is subjective to a complex mix of socio-technical factors.

Fhlannchadha (2020), like other sources acknowledge the many successes in delivering and implementing online teaching and noted the potential of technology, but this is mentioned alongside the limitations and the fact that it is no substitute for the classroom. This concept of not being a substitute for the classroom stems from the fact that there is a stigma attached to online learning as being lower quality than the face-to-face experience, despite research showing the contrary. That this stigma towards online teaching is considered the weaker option of teaching, and this could have be solidified due to the rushed nature of emergency remote teaching. (Hodges et al.,2020). The terminology we use around the online experience is also important as it distinguishes the different types of learning experiences that can occur, Emergency Remote Teaching (ERT) should be the term used in the current context (Hodges et al., 2020). These nuances themselves further create a barrier to implementing technology as the bias notion that online learning or using technology to replace the central role of the teacher creates unease as the multiple roles teachers play in students education is not limited to educator and becomes apparent when viewing the challenges faced due to social context, especially during the period of remote teaching necessary due to Covid.

Devitt et al., (2020) highlighted the centrality of the teacher's role in students continuity of education, and the need to understand the teacher perspective during policy development. The key findings of Devitt et al.,'s study about student engagement are very illuminating, in particular that "DEIS schools were 3 times more likely to report low engagement" and that "teachers who reported low self-efficacy…were more likely to report lower levels of student engagement" (p.1). This lower engagement in DEIS schools could very well stem from the loss of face to face contact time and other care and social needs that are not being achieved due to remote teaching, that are usually met for these students cohorts

in school. A lack of knowledge or access to technology could be part of the barrier created by social context, resulting in lower engagement.

2.3 Challenges to social context and connectivity through technology

The challenges to social context and connectivity through technology is another emergent theme throughout literature around the topic of online or remote teaching , and can be viewed as another barrier. This barrier is linked intrinsically to the physical context, the change occurring in which learning is delivered, how colleagues, teachers and students interact. Within this theme of challenges to social context and connectivity through technology the following sub-themes emerge; funding, resources, ever-growing technological economy, and sense of community.

A challenge faced by schools is funding, yet another barrier, which is generally linked to the social context and affects the implementation of technology in education, lack of funds and resources impedes a schools ability to move towards 21st Century teaching approach which appears to be a global shift towards, in order to meet education and economic societal needs. Such needs such as remoteness or lack of access to qualified teachers were noted in a study completed by Stenman (2020) pre-Covid, a mixed method study consisting of questionnaire and semi-structured interview, which was a limited study of ten participants in Sweden from a rural region, about teacher's perspectives on the equality and inclusion of remote teaching in rural areas, with an aim in exploring the teachers' own pedagogical digital competence as well as the school organizational support as factors in developing remote teaching. Similarly to other studies mentioned in the previous section about barriers, Stenman (2020) noted that challenges are faced in teacher's pedagogical digital competences and the need to access school contexts and communities for collaboration and discussion on remote teaching strategies. Implications of this study are that if adequate professional development and organizational structures are in place, remote teaching affords equal access

to sparsely populated areas, allowing for inclusive education to be provided for in areas that would be lacking in teacher competences.

This use of remote teaching highlights potential of changing the contest of access to education through technological means. This concept of providing equal access, or equality of opportunities links with the Irish DEIS ethos of Delivering Equality of Opportunities in Schools. In particular goal 2 and 3 in the *DEIS Plan 2017*, "To improve the learning experience and outcomes of pupils in DEIS schools" (p. 24) and "To improve the capacity of school leaders and teachers to engage, plan and deploy resources to their best advantage" (p. 35), could easily adopt this idea of practice presented by Stenman (2020), to improve the use of resources, or access to teachers through the use of technology allowing for more inclusive education.

A lack of resources or funding is nothing new in education. As Berry (2020) examines the American context of the experience in education due to COVID, they noted the continued lack of resources to meet the needs of its students had been long felt, and argues that a systematic approach to education is urgently needed and should be pursued through a Zero-to-Workforce strategy. The reaching out and connecting with students and their families by educators and ensuring supports were implemented was seen as the priority, to look after the whole child, addressing their needs, and locating partners outside of the school community that could aid this. A large concern of educators during the COVID-19 pandemic and unprecedented emergency remote teaching is the ability of the students to remain connected (Chagas, 2020), not just for educational purposes, but for the students' mental health and well-being (Berry, 2020). An acknowledgement that schools are not just a place of learning but in particular for students in disadvantaged areas, schools and the vital interactions with their teachers and peers are essential to overall development, and wellbeing (Fhlaannchadha, 2020, Mohan et al., 2020). Teachers in DEIS schools have a very specific role in this

development and forms part of their professional identity and the duty of care they feel towards their students.

Berry (2020) suggests that there are opportunities that have arisen from COVID19 to reorganise policy, people and programs to work collaboratively and more effectively in our education and community settings to care for, teach and mentor our young people, which creates a very convincing argument for a zero-to-workforce strategy. The concept of involving the community has gained momentum during Covid and in terms of educational development and opportunities involving local communities is important for school and student development. A sense of community is integral for both student and teacher development. This is central to all teaching situations, and it is important that this sense of community is maintained during any online teaching periods. (Stenman, 2020, Chagas, 2020, Mohane et al., 2020, Fhlannchadha, 2020). This connecting with the wider societal picture and ever-changing economy, especially towards 21st Century key skills is evident in recent Irish education policy documents. (DES, 2015,2016,2017, Ireland ICT Strategy group, 2008)

Konig et al., (2020) had noted in the German school context that digitization within schools had recently attained importance, with connections being made in closing the gap between conventional learning and developing the necessary skills for an ever-growing technological economy, that 'creative and innovative' problem solving and the opportunities within the school context to utilise technology and digital resources should integrate ICT within the curriculum. There is a drive for this to occur at school level, implementing suggestions of best practice from education policy documents. This movement towards integrating ICT into curricula can be seen globally (Konig et al., 2020, Babic et al., 2020, Stenman, 2020) as well as in Irish policy documents for education, for example the *Digital strategies for schools*. There is a global recognition that students must become digitally

literate and savvy citizens to enhance their opportunities and meet the needs of our everchanging society and economic workforce needs.

This idea of lack of resources and meeting the needs of the whole child and working with the community (Berry 2020), access to teachers (Stenman 2020), the need for teachers to be a part of policy making (Devitt 2020), the digitization within schools (Konig et al., 2020) are all important concepts that leads to discussions of what should be done post-pandemic in schools globally. It can be argued that communication is key across all stakeholders in education, and the inclusion of community is essential for furthering development.

Huges' article offers helpful suggestions to ease frustrations of students experiences and teachers, in both short and long term, and emphasises the need for consideration on the situational factors that can affect teaching and learning and the reflection upon the real-life context and hence rethink the desired outcomes of courses due to the current context. (Huges et al., 2020) This links in with Bertacco (2020) and not being vexed with technological challenges. This consideration is important when we examine how practices have adapted during the pandemic.

2.4 Practices in Pandemic, pandemic transformed pedagogy

Practices during the pandemic have transformed pedagogy, the need to utilise technology has required the adapting of materials, methods of communication to maintain social contact with students and continue education requiring a reformation of the school community and how it functions. The experiences of teachers caused by this new learning context during this time period will impact on future practices, following Dewey's "notion that experiences grow out of other experiences, and experiences lead to further experiences" (Clandinin & Connelly, 2000, pg 20).

Experiential learning theory as detailed by Kolb (2007), and looking at the theories of Dewey (1925,1938) and Vygotsky(1978) seem very appropriate in that they align with the

core ideal of the research question, looking at the experiences of teachers during covid, how technology was used and transformed their teaching methods. The idea of knowledge building community is explained by Wolfensberger's (2020) qualitative research which gathered data via email response or a face time method, this knowledge building community is explained through the lens of Vygotskian view of educational dialogue (Vygotsky, 1978).This sociocultural approach to learning is that knowledge is socially constructed through language and hence that educational language is crucial for knowledge building. This concept is illuminating into how school communities work in an everyday setting and how this has transformed into the digital setting due to the pandemic, as "synergistic transactions between the person and the environment", and that these essential communities where collaborative knowledge building continues to function as a "dynamic state arises from an individual's preferential resolution of the dual dialectics of experiencing/conceptualizing and acting/reflecting" (Kolb, 2007, p. 10).

An analysis of social contact maintained with students, the mastery of core teaching challenges, and of potential factors that contribute to the effectiveness of being able to teach online were all looked at in surveys conducted by Konig et al., (2020). Communication with students and parents were mastered well but the integration of ICT in teaching and assessment was mastered to a lesser extent by the sample population. From their research it has become evident that digital teacher competence and opportunities to develop these skills are indispensable in adapting to online teaching. This notion of learning through experience is deeply rooted in education (Clandinin & Connelly, 2000), and may not have been specifically mentioned in Konig's study, but it can be inferred that experience, "as John Dewey taught, is a matter of people in relation contextually and temporally" (Clandinin & Connelly, 2000, p. 189) and the opportunities to experience and develop allow for this transformation and adaption into online teaching and the use of technology.

The experiential learning that is situated in this unprecedented context, allowing for education to transform, these studies highlight the alternative opportunities in teaching that has emerged due to this pandemic and the continued need to integrate digital technologies into student learning in the classroom. It is also noted that teacher's self-efficacy with technology is decisive in the extent to which the integration of this occurs with their teaching and for how long it is sustained (König et al., 2020). The potential to which this transformation in education continues is dependent on the learning experience of the teacher during this time period.

Again this sense of community presented by Konig, previously noted in this review by Stenman (2020), is also seen in Birch and Lewis' (2020) narrative piece which details how two educators partnered with a local county office of education to launch a series for professional development to support K-12 teachers with virtual teaching and learning. Through this it was discovered that in building partnerships and proactively engaging with educators' needs via a microlearning model of professional development, aided teachers confidence in navigating this new emergency remote learning environment. This continued communication, socially constructing knowledge is vital and during covid needs to be sustained and the methods of doing so have transformed with the aid of technology. Both Dewey and Vygotsky concur that the human condition is constructed on social interactions, (Glassman, 2001), Konig (2020), Stenman (2020) and Birch and Lewis (2020) all depict the social interaction between students, teachers and colleagues as vital to the learning experience.

Mezirow's concept of transformative education, is another theoretical framework that can be utilized to highlight the implications the pandemic has for education, focusing on this theory as a pandemic transformed pedagogy, as educators have been forced to experience a shift in thought and action. It can be argued that this theory works extremely well with

experiential learning theory, and Dewey's concept of experiences leading to more learning experiences, the way in which pedagogy has had to transform and how teachers learn from this experience and continue to transform with the experiences, is essential in looking at how these social and contextual interactions have formed and adapted during this time period. Code et al.,(2020) employed Mezirow's theory whilst looking at technology education teachers in Canada and their response to emergency remote teaching, and their concerns about the future teaching of their subject and looks at a framework for blended learning as a method to overcome challenges that have been faced by these teachers.

Even in 2007, issues were raised about the lack of adequate online material to support learning and limited opportunities for communication with instructors (Hong et al., 2007). Even then it was highlighted that consideration needed to be given to the varying learning styles during the designing and development of online courses, as well as the provision of a greater number of electronic documents for online reading with appropriate amount of time given for students to absorb this knowledge. Again, it can be argued that Mezirow's concept of transformative education, this idea of transforming the material to adapt to the learning platform and the change in experience is evident, along with Kolb's theory experiential learning throughout the process. These concepts, even if not directly mentioned have been present throughout the literature concerning teachers and technology.

Bertacco (2020) provides a reflective discussion on the current transition and adaptation to teaching online from traditional face-to-face courses, describing it as Emergency Remote Teaching (ERT). Acknowledging the necessity of such ERT, it is noted also that the pedagogical underpinnings of teaching practice should be relied on and not be vexed by technological challenges, and the shortfalls that occur due to the platform of current teaching. Schwab's (1973) theory of four commonplaces, 'context (milieu), outcomes (for learners), implementation of the course (by teachers) and design (of materials)' (Bertacco,

2020) informs Bertacco's conceptualisation of their own teaching practice and their reflection on ERT and it is noted that this is used as it is not online learning as depicted by others (Means et al., 2014).
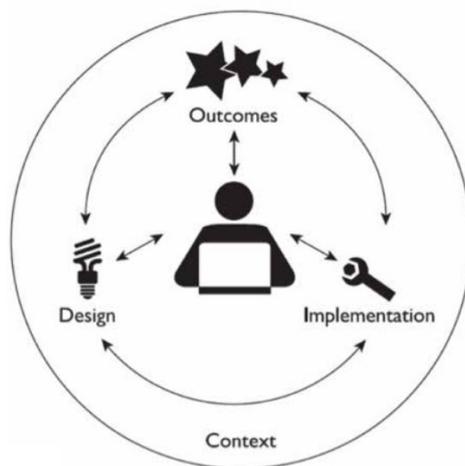
Figure 1 Taken from Bertacco 2020, illustration of Schwab's theory of four commonplaces

The use of Schwab's theoretical framework to explore the challenges and interrogate practice in unprecedented times, provides interesting insight and points that relates with the research question of Teacher's experiences of teaching and using technology during the pandemic, as this was an emergency measure and adaptation of methodology, resources and implementing technology to achieve learning outcomes for students. This framework allows for the scrutiny of the challenges seen in other studies of social context (Stenman, 2020, Berry, 2020), the aloneness of online (Konig et al., 2020), the home becoming the place of teaching and learning (Chagas, 2020), stress caused for teachers and students on particular courses that are considered high-stake nature due to test preparation (Bertacco, 2020), materials that were intended for face-to-face and the need for adaptation of these (Huges et al., 2020, Code et al., 2020) and the other affective factors that influence the online learning space for both teacher and student.

Popa et al., (2020) in contrast to many other's methods employed, conducted an integrated mixed methods research examining, teaching and learning behaviours under the

crisis conditions of Covid. The qualitative data obtained in this study emphasized a theme of crises in online teaching and learning efficiency, noting differences in adaptability, creativity, the need for help and collaboration for problem solving were also noted between the teachers and learners. The research determined that the pedagogic quality of the learning experience was a priority that needed focus in online education. The emergent theme of online teaching and learning crises, is an important theme as it has become evident in other current pieces of literature (Bertacco, 2020) This work is also looking through the lens of transformative learning theory, and presents a clear argument for not the competition between traditional face-to-face teaching versus online teaching but a negotiation between the two for a better learning experience and outcomes. This potential negotiation between the traditional and the online is an important concept that needs to be addressed in current teaching methodologies to best navigate a digitally literate world and meet the demands of student needs.

The *Digital Strategy for Schools 2015-2020* (DES, 2015) is intended to build upon the progress achieved by the 2008 strategy, *Investing Effectively in Information and Communications Technology in Schools 2008-2013* (DES, 2008) and adopted an evidence-based approach. The DES presents the vision for ICT integration in schools as a means to 'realise the potential of digital technologies to enhance teaching, learning and assessment so that Ireland's young people become engaged thinkers, active learners, knowledge constructors and global citizens to participate fully in society and the economy.' (DES, 2015) As noted in this study work from Butler et al., (2013), ICT is now prevalent in society, transforming how our daily lives are lived, with the possibility to support transformation in assessment, learning and teaching practices in education, with the ability to connect economic and social development with educational policy.

The COVID-19 pandemic has provided an unprecedented opportunity and need for upskilling and adapting content and curriculums to suit online platforms. The urgency of

emergency remote Teaching to be implemented has transformed pedagogy. The various application of video-conferencing platforms offer an opportunity to experiment with pedagogy, with the potential of using systems like the Open Broadcasting Software (OBS), the expectation of students for higher quality videos and use of intro jingles et cetera, and teaching studios (Chagas et al., 2020) for improving the experience or to create a hybrid of the face to face teaching with the online platform. It is suggested that this could enrich the interaction between students and teachers. This could also link in with providing greater access to education in future pedogeological developments, where it may not be possible for all participants to be in the physical classroom.

Articles which allow the opportunity to open up discussion about educator experiences of the pandemic and the impact it has on teaching pedagogy and the learning experience are becoming increasing topical due to the current situation in education caused by the pandemic, this idea of opportunity for opening up discussion aligns with my research question in looking at the experience within my own school context. There is limited research that looks at experience with technology in education that focuses on the qualitative element, there is far more quantitative research that conducts surveys to generate indicative factors without looking at the experience around the result or causing the result. These indicative factors are important in presenting part of the picture that emerges from research about teachers and technology use, however a more balanced picture is achieved when both quantitative and qualitative complement and enhance the information presented. Using a theoretical framework, such as experiential learning or transformative education allows for reflective discussions to occur about the learning from the experience and the potential transformations that can occur in our learning environments.

2.5 Conclusion

A limitation of recent literature conducted is the almost exclusivity in conducting surveys and questionnaires to collect data about perceptions of self-efficacy and competency, a lot of recent surveys do not actually measure the participants digital literacy, and are unable to gain further clarity into comprehending why or how exactly a participant feels. Purely quantitative data gathered allows for large quantities to be gathered but lacks the ability to gain further meaning that can be achieved through qualitative methods, due to the limitations in social contact during COVID-19, it is understandable why so much of the literature research conducted in 2020 is limited to mainly quantitative methods. The limited qualitative research conducted limits acknowledging the human experience and clarity that can be achieved in comprehending the nature of factors influencing potential barriers to change. There is little active engagement with learning theories throughout research that are appropriate to these contexts such as experiential learning theory, or transformative education.

Barriers of different degrees has consistently presented as an issue to implementing technology, such as self-efficacy (Popa et al., 2020, Konig 2020, Babic et al., 2020, Bertacco, 2020, Fhlannchadha, 2020, Devitt et al., 2020, Grande-de-Prado et al., 2020, Stenman, 2020, Scully, 2021), connectivity (Fhlannchadha, 2020, Devitt et al., 2020, Stenman, 2020), and resources (Berry, 2020, Bertacco, 2020). These appear consistent issues pre and during the pandemic. In terms of Irish policies, it can be seen that there is a continual address of these barriers, through improving broadband, access to technology in schools, frameworks that allow schools and teachers take ownership of where training is needed and how to best meet the needs of their school context.

Further studies would be prudent to look at experience of emergency remote teaching, examining the change in self-efficacy of teachers and their use of technology, how pedagogy

has adapted and whether this period will impact the implementation of technology into the classroom post-pandemic. The innovations taken by teachers has demonstrated the potential of digital technologies to enrich students' learning, (Fhlannchadha, 2020) and the potential of lack of self-efficacy acting as a barrier to furthering this progress of implementing technology in the classroom, as part of the students learning experience, to impart more 21st century skills, needs to addressed through suitable supports, access to training and upskilling (Scully, 2021), the building of community knowledge and collaboration to enhance our teaching and learning practices. The possibility of a blended teaching approach is possible but also could be hindered due to perceived stigma attached to online learning as being the weaker option (Hodges et al., 2020). Technology in education will continue to be topical for many years to come, and looking at the variety of opinions and experiences globally during the COVID-19 pandemic will influence and transform education policies in the future and the literature and research produced around it.

Chapter 3 Methodology

3.1 Research Aims and Question

'Teachers and Technology: The stories of a DEIS schools' experiences during a global pandemic', as a piece of research it aims to question what was the story of an inner city DEIS school teachers' experiences with technology during the first school closure, re-entering the classroom in September 2020 to a second closure, focusing on what exactly was the participants' experiences of teaching and using technology during Covid-19. The focus was to be within my own school context to gain a greater understanding of my colleagues' experiences and to allow us as a school community to learn from this experience.

Given the digital divide that occurs with DEIS student cohorts and the difficulties COVID-19 has produced for DEIS school students (Mohan et al., 2020), which has been noted in national newspapers, I felt it would be prudent to look at it from the teacher perspective; how they felt teaching was affected during this time period and their observations. This research question aims to illuminate the barriers, triumphs and overall experience of a diverse group of teachers that cater for the learning needs of a DEIS school population.

3.1.1 Research sub-questions

The research question was to examine the stories of experiences from teachers, from my own school context, of teaching and using technology during Covid. The research question is broad and allows for opportunities of stories to occur, the following sub-questions emerged naturally as a means to explore more in-depth into these experiences.

- How have teachers developed/evolved?
- How did they adapt?
- How they felt about using technology? Did this change during the time period?
- What did they find most difficult?

- What did they think worked really well?

- What training, if any, did they undertake?

- In what areas do they want to continue developing their use of technology to aid their teaching?

- What is the impact in a digital environment?

- How teaching in a digital/virtual environment affects our staff?

- What insights have we gleamed from this experience?

- Will we progress with technology?

- Will we revert back to previous methods of teaching?

- What difference did they notice coming back into the classroom after online teaching?

- Had their own practice evolved?

- What did they think needed to happen next in education to move forward with teaching, learning and technology?

These sub-questions fed into the interview process and aided the development of potential questions that were asked during interview, feeding into creating moments for stories to emerge during interviews. See appendix 5 for potential interview questions that were asked to aid gathering information pertaining to the research question and subsequent questions that emerged.

3.2 Research Context

The research was conducted in my own school context, a DEIS school in inner city Dublin. Larkin Community College is under the responsibility of the City of Dublin Education and Training Board (CDETB), the school offers its students the opportunity to learn in a positive, student-centred environment with programmes developed for their needs and abilities, this includes Junior Cycle Schools Completion Programme (JCSP), scholarship programmes that nurture abilities in Basketball, Soccer and the Arts, and most recently the

school has become involved with P-Teach (Pathways in Technology) programme which has involvement from Dublin's North East Inner-City (NEIC). There is a very strong sense of community in the school, and teachers strive to provide the best opportunities and learning experiences for their students. The school has an eclectic mix of teachers, Irish nationals (originating from various counties) and non-Irish nationals, male and female, a dynamic range of age groups, with a range of experiences and backgrounds, and this all feeds into the sense of community within the staff that permeates to the student cohort. See appendix 6 for School mission statement (taken from school brochure) and details about school supports; School guidance counsellor, Chaplain, Home School Liaison Officer (taken from school website).

3.3 Methodology: Narrative

What is narrative? Interpretivism paradigm aligning with narrative methodology.

The definition of narrative is often in dispute, including the necessity of one, with no clear starting or ending point, no definitive outline of suitable modes of investigation or material, or even where to look for stories (Andrews, Squire, & Tamboukou, 2013). The version of narrative that is adopted in this research is experience centred, that has an emphasis on temporality, society and place (Clandinin & Connelly, 2000), with an awareness of who the participants were and the context in which they experienced this. There is a clear resonance with Dewey's theoretical concept of experience in education and narrative that is trying to be achieved in this work. For this work it should be taken that the narrative approach is a frame of reference, that enables a means of reflecting during the entire inquiry process (Moen, 2006).

Narrative was chosen as the most appropriate method as engaging in 'storytelling' allowed for a different social interaction to occur over other methods of communicating, and allowed an identity to be constructed through this act of storytelling which can be quite fluid

(Riessmann, 2008). Hence through constructing a narrative via semi-structured interviews, it enabled that moment in time to be captured whereby the teacher may have felt in a transitional, unprecedented state, teaching whilst navigating technology and the digital classroom as a result of a global pandemic, enabling a temporality of society and place to be explored.

Narrative research produces detailed transcripts and thematic analysis has been applied to decipher and present meaning from these experiences. Reissman (2008) presents thematic analysis as a method to work ethnographically, to gain insight into how participants interact with their environment, and that this can allow the researcher to "explore the social construct of identity" (p. 67). "Readers must trust the investigator's representation, blurring the boundary between transcription and interpretation…It's impossible, of course, to 'capture' the past; it is gone, and memory is always partial and selective." (Reissman, 2008, p. 71). This recounting of the past, of experiences by participants in this research allows participants to be selective on the stories they choose to tell, on the meaning they themselves make on it through their reflections, and a blurring to occur through co-constructing this story, in representation based on my own selection of data to include, and the tidying up of that data for presentation, along with my interpretation and discussion of the data presented. Thematic Analysis was conducted by applying Braun and Clarke's (2006) steps of thematic analysis which includes familiarisation with the data, generating codes and patterns and finally developing and defining themes. Following the steps of thematic analysis allowed me to really focus on understanding what these experiences yielded in terms of my research question, it permitted me to scrutinize the transcripts in terms of what sub-questions were being answered, what ideas appeared to be emerging individually and collectively and considering this alongside the literature that I had read.

Hence, this research permitted reflective practice to occur, for both the interviewer, the interviewee and the staff and wider school community, engaging in conversation and storytelling and making meaning of the experience. Taking this approach with Narrative, follows an interpretivist approach, as this allows the inclusion of 'emotions; understandings; values; feelings; subjectivities; socio-cultural factors; historical influence; and other meaningful aspects of human being. Instead of finding "truth" the Interpretivist aims to generate understanding and often adopts a relativist position' (Farrow et al., 2020) as certain human experiences cannot be objectively understood, including values, feelings, emotions, and socio-cultural factors.

The methodological approach of narrative is suited to having an interpretivist research paradigm. There are many elements that are crucial aspects of interpretivism that are present in this research, especially around context being imperative for knowledge and knowing, that factors within the context must be taken into consideration as they are essential in a systematic pursuit of understanding, and that there exists and interdependency between causes and effects (Farrow et al., 2020). In interpretivist research there is unavoidable interaction between the researcher and their participants, noting that the social world cannot be understood from the individual standpoint, but rather accept that realities are multiple and social constructed. (Farrow et al., 2020)

These elements resonate with my own understanding of my research question and what it is I hope to capture and achieve through this process. With an interpretivist paradigm, the narrative design is the most appropriate method as it addresses the question of what was the experience of teachers using technology and teaching during Covid-19 in my school context. The methodology of narrative research aligns with this research question, as Narrative research aims to explore human experience in more depth and to look at the meanings people

assign to their experiences, both personal and social (Farrow et al., 2020, Iniesto, Weller, & Pitt, 2020, Clandinin & Connelly, 2000).

It could be argued that this research would lend itself very well to a case-study methodology. Although the context here is important, and certainly due to the disadvantaged nature of the school context in which these teachers are teaching that have influenced the findings, which indicates suitability to a case study approach, the research itself through the use of semi-structured interviews, the research question and aims, was focused on the individuals assumptions, perceptions and viewpoints of technology and teaching during this timeframe, and the story of their individual experiences. With this in mind and after in-depth consultation with my supervisor, I felt that a narrative approach to be most appropriate as the topic is very subjective and allowed for participants to make their own meaning and explore their experiences of teaching during this time frame, it allowed for conversation, reflection and understanding to occur and a co-construction of meaning of this experience through thematic analysis and the presentation of the data.

3.4 Theoretical viewpoint: Experiential Learning theory

Kolb's version of Experiential Learning Theory has developed and draws on the work of 20th century theorists including John Dewey and Lev Vygotsky (Kolb, 2007). "The theory, described in detail in *Experiential Learning: Experience as the Source of Learning and Development* (Kolb 1984), is built on six propositions that are shared by these scholars.

1. Learning is best conceived as a process, not in terms of outcomes.

2. All learning is re-learning.

3. Learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world.

4. Learning is a holistic process of adaptation to the world.

5. Learning results from synergetic transactions between the person and the environment.

6. Learning is the process of creating knowledge." (Kolb, 2013, p.6-7)

This research's initial purpose is to look at the experiences of teachers as they come to terms with and experience teaching using technology during a global pandemic. The very concept of experience is key to this piece of work. Experiential learning theory, and looking at the theories of Dewey and Vygotsky seem very appropriate in that they align with the core ideal of the research question, looking at the experiences of teachers during covid and what they learnt and how they reflect on this in their context. "Dewey transforms a commonplace term, experience, in our educator's language into an inquiry term, and gives us a term that permits better understandings of educational life. For Dewey, experience is both personal and social" (Clandinin & Connelly, 2000, p. 20). The idea that experience is an inquiry, that is both the personal and social resonates with understanding the context of the current dynamic shift that has occurred in educational settings, the continual adapting of professional identity, work environments, teaching methodologies and the continuity of this state of flux and change in education makes looking at experience itself as an inquiry to understand educational life so important. "Dewey held that one criterion of experience is *continuity*, namely, the notion that experiences grow out of other experiences, and experiences lead to further experiences" (Clandinin & Connelly, 2000, p. 20). This experience of teaching during a pandemic will inevitably look at the social interactions involved between teachers and their students, and teachers with their colleagues. Both Dewey and Vygotsky concur that the human condition is constructed on social interactions. "The essential questions that need to be asked involve how these extraordinary connections come about, and how the individual begins to take control of them (Dewey, 1925). Vygotsky suggests that it is the ability to develop cooperative activity through complex social relationships that separates mature

humans from all other animals (Vygotsky & Luria, 1993) Humans are best understood as products of these complex relationships" (Glassman, 2001, p.5). Part of this product forms the professional identity of a teacher, that in turn affects the duty of care felt towards students, the learning environment that is developed between teacher and student, the expectations that come with it. Covid has created a different type of learning experience for educators in which they have had to adapt and learn.

This period of teaching during Covid should be looked at through the lens of a learning experience consequential from "synergistic transactions between the person and the environment" and that such a "dynamic state arises from an individual's preferential resolution of the dual dialectics of experiencing/conceptualizing and acting/reflecting" (Kolb, 20013, p. 10). The process of acting and reflecting is important as through conducting semi-structured interviews, participants and researcher are enabled to conceptualise and reflect upon these experiences and actions that will impact and continue the experiential learning and comprehension of knowledge gained from this experience into future practices.

3.5 Co-constructing knowledge: The Post-Modernist Stance

Through constructing a narrative piece, it is intended that knowledge will be co-constructed, through interpreting the themes that emerge throughout and discussing these themes with an awareness of the wider context. "Postmodernists reject the notion that knowledge is definite and univocal" (Rossman and Rallis, 2012, p.91). In taking a postmodernist stance, I must acknowledge that the stories presented and the interpretations presented will not be illuminative of all experiences, that there is not necessarily a definitive understanding, or even a singular definitive theme that fully represents, that this experience is situational within an individual's experience, within a school context, withing a particular type of school setting, within the Irish school context whilst a global pandemic occurs. "that the personal account, in research interviews, which has traditionally been seen as the

expression of a single subjectivity, in in fact always co-construction" (Riessman, 2008, p. 31). Through attempting to piece some of these concepts around the stories presented a more illuminative background is given to aid the construction of a collaborative story, as a consequence of the particular questions asked of participants and the stories they wished to share. These illuminate some of the experiences of these teachers and therefore are constructive to understanding the circumstances better in which further reflections and learning from can occur that will benefit individuals and their practices along with the school community as a whole.

The co-construction of knowledge was a continual process during this dissertation, the discussions that arose from conducting semi-structured interviews occurred whilst teachers were still experiencing a hybrid of online teaching of junior students, whilst in-class teaching of seniors. All participants and myself as the researcher were engaged in the learning process of teaching using technology during this timeframe, the interviews and discussions that subsequently occurred after or even before, added to our individual learning and understanding and ultimately our socially constructed collaborative understanding of the experience. This follows Vygotsky's theory that knowledge is co-constructed and that as individuals we learn from each other and create meaning from these social interactions.

3.6 Method

To conduct this research an understanding of the methodology was needed, extensive reading into different methodologies was undertaken so as to best understand, what exactly I was trying to achieve with my research question and what was the most appropriate way to do so, I initially used the figure depicting the "Progression through the Research Process" (Farrow et al., 2020, p. 32) to aid determining my stance, values and understanding of my research question. As there was focus on experience, a narrative methodology became the logical choice in order to gain in-depth understanding and to weave these experiences into

a collective story situated within the context of a DEIS school, "in the construction of narratives of experience, there is a reflexive relationship between living a life story, telling a life story, retelling a life story and reliving a life story" (Clandinin & Connelly, 2000, p. 71). Then it required determining an appropriate method in which to collect these stories, semi-structured interviews was decided upon as it allowed freedom for participants in answering, freedom for the interviewer in asking questions, as "questions may not follow on exactly in the way outlined on the schedule. Questions that are not included in the guide may be asked as the interviewer picks up on things said by interviewees." (Bryman, 2012, p.471)

To conduct this research the following criteria for participation were considered;

- Duration of teacher working in the school; participants must have worked during both academic years during which the pandemic affect school life (March 2020-June 2021) to allow for greater understanding of the entire experience to be achieved.

- Variety of teaching subjects to be captured; inclusion/exclusion criteria would apply if too many volunteered from same subject area.

- Number of participants six to eight; limited number of participants due to the nature of narrative and time required to do so.

All staff members received information about the research and all potential participants were be invited to express an interest in participating. Within two weeks after receiving responses of interest, interviews times were organised to suit the participants, consent forms were be provided and completed. Participants were invited to interview for approximately 60 minutes. An informed consent form was completed before commencing interviews and participants had the option to decline interview, if they chose to. See appendix 3 for informed consent, and appendix 1 and 2 for information provided to potential participants.

Eight staff in total were interviewed; One pilot interview and Seven interviews that were included in the research's data analysis. A variety of staff members approached to

participate, teaching different subjects, with different roles of responsibility with the school, of different ages, and both male and female staff members were interviewed. There was no need to apply exclusion criteria as there was a good dynamic mix of teachers who had volunteered, and there was not an oversupply of volunteers.

3.7 Ethical considerations

As part of this course it was necessary to submit an interim checkpoint review about my proposed study, within this ethical considerations needed to be considered and detailed, this required reading NCI's ethical procedures and carefully considering these in regards to what I wanted to achieve with this research .

There is the potential issues with maintaining confidentiality for participants (e.g. identifiable by subject specialism if mentioned) as this study has been conducted within my own workplace and therefore there was a limited number of potential participants. To ensure as much confidentiality, where possible, mentioning of subject specialism has been removed, transcripts have been edited to exclude turns of phrases by participants, student or other staff names mentioned have been removed and replaced by 'student/teacher name'. The transcripts are referred to as interview one through to seven in the findings and discussion, this was to avoid giving fake names that were gendered, in which by gendering them may have led to easier identification of participants. All data gathered on participants, transcripts and audio recordings are confidential, (Bryman, 2012) and were securely stored on an encrypted device and will be treated as per NCI guidelines after the completion of this study. Participants completed informed consent forms before commencing this study and before the interview process, they were also informed of their ability to withdraw at any point if they desired to do so (Bryman, 2012).

However, it should be noted that the school will be identifiable because of participation with P-tech and my association with the school, as well as the inclusion of

information about the school in the research context section and some of the appendices to give greater context for the narrative.

Seiber (2013) presents the idea of vulnerability to authority as an ethical consideration, in which participants feel obliged to participate due to a potential risk due to a formal power relationship. I think given my position in the school, I do not hold a post of responsibility, I am not in a position of authority, and therefor there should have be no ethical issue of vulnerability to authority present in that regards as I was dealing mainly with staff who are more senior than myself. However, I did note in my reflective journal that due to my involvement in P-Tech and my interest in technology that that had created a different type of vulnerability to authority, as in authority over knowledge with technology, that prevent some staff members from volunteering to participate over fears of not knowing enough themselves, or being able to talk about technology. This in itself would have limited potential stories that could have been told that might have offered a different insight into the teacher experience. During this process I have had to be aware that as the researcher, my "values and life experiences influence" my work, and that I aim to present a "true account" and "that if we make any sort of truth claims there is a responsibility to be honest about the routes we have taken to arrive at them" (Sikes, 2012, p.126), in order to aid representing a true account I have kept a reflexive journal during this process and clearly outline any methodological choices I have made during this research when detailing the methodology chosen and methods of conducting the research and analysis (Riessman, 2008). As an ethical consideration it is important to note that participants may not agree with my own interpretation or analysis of the interviews, and that "life stories are not static; memories and meanings of experiences change as time passes" (Riessman, 2008, p. 198) which can influence how a participant may view this piece of research later on. It is important to "clearly establish between" my "views of subjects' lives and their own" (Riessman, 2008,

p.199), therefor it should be noted that the discussion in chapter four are my own interpretation and understanding of the experiences presented.

3.8 Conducting Interviews

I conducted a pilot interview with a colleague to determine how well my interview questions (Bryman, 2012) and use of online platform would work before conducting my research, I made sure to interview a participant that would not affect the sample chosen for the research (Bryman, 2012) as this teacher taught the same subject as another who had Volunteered. This pilot interview was conducted during the evening time after work via Teams. I recorded the session using the Teams app and used a Dictaphone as a backup in case anything went wrong with the video. The session was securely downloaded and stored after the meeting and was deleted from the online platform. This allowed me to gain valuable experience using technology to conduct such an interview and test out some of the questions I had prepared for a semi-structured interview. During the process and upon reflection, I noticed that both myself and the participant were able to see a timer during the interview which made us both very aware of the time passing. There was a preconceived idea on the length an interview should last on the participants part as they themselves had recently conducted interviews for their own masters. I think this awareness of time may have hindered the quality of the process and it felt more time-pressured to be conducted in a timely fashion, which is contra to the narrative process. However, I gained valuable experience in conducting an interview which helped alleviate my own nerves as I was unused to being in such a role.

Through working collaboratively with this colleague they instructed me on how to retrieve the transcript from Teams as they were familiar with the process. Unfortunately I found the transcript produced would require a lot of editing and it wasn't as easy to concurrently rewatch the interview and edit the transcript. This made relying on the Dictaphone's audio recording a more desirable option as it would be easier to work with.

My second interview was arranged to be on Teams also, but unfortunately the connection made it impossible to conduct via this method. Luckily the participant and I, were in the school building and we quickly rearranged to conduct the meeting in person and used a Dictaphone to record, socially distanced, in a well ventilated room, following Covid safety guidelines. There was immediately a noticeable difference in conducting an interview in person rather than via teams, it felt far more relaxed, conversation was easier and there was no checking of time. This solidified my change in approach for the remainder of the interviews and they were all conducted in person thereafter.

I found that teachers who had actively sought me out to participate in interviews, were more willing and engaged, speaking at length about their experience. Teachers that had volunteered, possibly because I have a good working rapport with them, were more difficult to draw out detailed information from, upon reflection after interview and during transcription I noted that the information divulged was very succinct, this would also have been down to my skill as a narrative interviewer, missing ques for picking up on certain details and the opportunity to then ask probing questions to encourage further discussion.

3.9 Reflective journal

During the process of research, interviewing, transcribing and editing, I kept a reflective journal to note down observations, my own thoughts and feelings, anything I felt was noteworthy. This was to allow myself to be a more reflective during the entire process. It allowed me after completing transcribing to revisit ideas I had after conducting particular interviews and compare them with ideas I had now formulated after greater familiarization with the data.

In keeping a reflective journal it allowed for sufficient reflexivity to occur, reflecting on my own experiences and give due consideration to how my own personal experience could influence and shape my interpretation of results (Creswell & Creswell, 2018). In doing

this it made me mindful during interviews to limit discussing my own personal experience during this period of teaching with participants so as not to override the importance of the information being provided by the interviewees.

3.10 Thematic analysis

Table 1 Phases of thematic analysis

Phase	Description of the process
1. Familiarizing yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes:	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Thematic analysis, using Braun and Clarke's phases, was conducted on the data gathered from the interviews. A benefit in using thematic analysis is its' flexibility, with the potential to unlock rich and detailed interpretation of data. This method seemed most appropriate to utilise due to the subjective nature of detailing experiences and creating a narrative piece.

Phase 1: familiarizing yourself with the data

In order to become familiar with the data I transcribed the interviews myself. This allowed me to relisten to the interviews several times and really get to know my data. Whilst transcribing the data, I noted down initial ideas in a reflective journal. I then reread a printed version of the transcripts several times, and began underlining parts and made initial notes on the transcripts.

Phase 2: Generating initial codes

Rereading back over the transcripts I made initial codes about the data and used my initial ideas to help inform my choices, and reread again the data to make sure I was not

missing out on any potential codes, using key words and phrases to describe these interesting features. Codes generated included; frustration, anxiety, lack of knowledge, no communication, work space, access to devices, enthusiasm to embrace change, broadband issues, concern for student welfare, loss of face to face contact, blank screens, competency with technology, teacher's methods changing, disillusionment, disappointment, adapting curriculum/resources, isolation, loneliness, anger, differentiation, engagement, ownership of work/learning, opportunity to learn, relief, platforms.

Phase 3: Searching for themes

This required collating codes, I began using a colour system on the hard copies of the transcripts for codes that I felt were similar. This allowed for me to gather all the relevant data for potential themes. I began collating quotes of interest into chronological order, to aid the creation of a timeline of the events and experiences, to be reviewed in the next step against the themes to help check for relevance and to see if for a narrative piece of work would it flow well arranging the data in this manner and would it allow for interesting discussion to develop later on.

Phase 4: Reviewing Themes

Reading back over the transcripts I checked to see the relevance of the potential themes to each interview. I then reread over the initial order of potential quotes to be included to check for relevance in themes per section. As I had arranged quotes in chronological order, I began rearranging them in relevance to themes, highlighting the most important part of the quotes that highlighted the theme. This step also allowed me to tidy up my quotes, through removing turns of phrases such as 'you know yourself' and repetition of words when the participant was formulating their ideas. This allows for a cleaner understanding of the intention behind the narration quotes that are to be included as that would have been hindered through these turns of phrases and formulation of ideas. This process allowed for a definite

reviewing of what themes potentially were in these transcriptions and how they could be linked with other transcriptions to illuminate meaning and the story that was being crafted.

Phase 5: Defining and naming

Braun and Clarke (2006) note that "the 'keyness' of a theme is not necessarily dependent on quantifiable measures but rather on whether it captures something important in relation to the overall research question". It is important to note the interconnectedness of the themes in this study, the context, social interactions all interplay with the experiences the individuals have recounted, there is a blurring where one theme definitively ends and another begins.

The following themes were identified through the codes produced, as they captured the elements of importance in relation to the experience of the teacher and were defined as follows;

1. ***Evolving Emotions***; The feelings experienced and processed upon reflection during this time period are important in developing and understanding the story and some of the other elements that were at play during this time. A range of emotions were observed throughout examining the transcripts, including frustration, anger, enthusiasm, isolation, loneliness, hate, love, disillusionment, disappointment, relief, concern.

2. ***Adapting Professional Identity***; Teachers usually have a strong sense of who they are, and what it is they do in their classroom, what they want to achieve with their students. Covid challenged this understanding by changing the educational landscape context. This theme emerged through the teacher's experience in a different environment, their methods needed to change, they needed to adapt, they needed to utilise new platforms and technology to be able to connect with their students, their own learning and understanding of technology needed to progress to enable them to continue educating students. Concepts emerged during interviews about what was most important to teach whilst online, why exactly they were

teaching certain things or using certain platforms, what are the consequences of students not engaging, how to accommodate this upon return to the classroom, how to navigate a more paperless environment using technology, how to assess, how to connect and communicate with students. There was a blurring of the professional and personal identity when in the home trying to conduct lessons, this 'invasion', as some felt, impacted on their work life balance, and questions about workload, am I doing enough for my students, and adapting and creating resources emerged. There was a need to connect with colleagues that was difficult to do during lock downs, and a greater understanding for the need to allocate time to allow professional development and collaboration to continue in the future.

3. ***Continued Duty of Care***; Duty of care was the initial theme to emerge from all transcripts, concern over the welfare and educational needs of the students has always been a prominent concern for teachers in a DEIS school, this concern became heightened with the lack of contact experienced during school closures. This theme interplays very much with the professional identity theme. The connecting with students and ensuring they were alright was the initial priority of the school, providing access to devices, wi-fi and meeting other care needs. Teachers showed a consistent concern for students, especially those that were not engaging. The loss of face to face time in the classroom was noted, and a stigma attached to certain aspects of online teaching compared to classroom teaching, the lack of interaction.

4.***Barriers***; There were plenty of barriers presented throughout the transcripts. The use of different platforms in the first lockdown, lack of knowledge by both teacher and student in using platforms to create an online learning environment, access to technology and devices, access to broadband, suitable conditions for working, adapting and creating resources, time, lack of contact or engagement of students.

5.***The Evolving Learning Environment***; The learning environment encompasses the workspace experienced by both students and teachers, online and physical, at home and back

in the classroom. There were expectations and limitations to what could be achieved working from home, and an understanding of the context is essential.

These themes will be presented in the findings and discussion chapter in a manner that allows their interconnectedness to flow, aiding the narrative story process.

3.11 Limitations

Limitations of this approach are that it is only capturing one school's narrative, of a select few participants, and therefore is not fully illuminative of the experience of the school as a whole, or of even typical of any other secondary school in Ireland. Not all participants divulged into detailed accounts of their experiences and therefore not all participants have been equally articulate or perceptive (Creswell & Creswell, 2018). The experience is unique and subjective but will share common elements with other teacher's experiences both in Ireland and worldwide.

Myself as a researcher would have introduced a limitation on the study, potentially influencing who volunteered to participate due to work relationships previously established, that my presence may have biased responses (Creswell & Creswell, 2018). This being my first time conducting research, it was a new experience, especially conducting interviews which I appreciate now is a skill one would need to develop over time to truly capture the nuances that are involved with bringing out individual's stories. Conducting qualitative research was an interesting challenge that I had decided to undertake, majority of my career has been teaching Mathematics rather than my other subject which is English and this decision to focus on a purely qualitative piece of work was an experience. My own interest in technology, involvement with the P-Tech programme, could have also impacted potential volunteers, those that may not have felt as comfortable with technology, or felt that they couldn't give the information that I might have been looking for. This may have limited other potential stories from emerging during this process.

Chapter 4 Findings and Discussion

4.1 Introduction

"Narrative research is… focused on how individuals assign meaning to their experiences through the stories they tell" (Moen, 2006, p.5), and in this findings and discussion chapter extended narrative quotes are included to depict the stories that have been told, to enable a discussion around the meanings presented within and interpreted and presented as themes. Braun and Clarke's (2006) method of thematic analysis has been applied on the transcripts of the seven participant teachers. The following themes became evident when analyzing the transcripts, and will be explored in the following order; Continued Duty of Care, Evolving Emotions, Barriers, The Evolving Learning Environment, and Adapting Professional Identity. These themes interplayed with each other throughout the interviews and often illuminated different categories within the themes that are interconnected. In some cases it has been difficult to completely segregate thematic examples and the order in which they are presented is to allow for a narration between the themes to also emerge and flow. Consideration was given to the most prevalent theme in each included quote, and they have been placed within that theme, an acknowledgement of any other themes present within a quote is noted and where possible the sequence of quotes within a theme is to ensure the story and ideas flow naturally into the next to aid the narrative story process.

The transcripts have been cleaned up to remove turns of phrases and repetition, extended quotes are referred to as interview one through to seven, this is to aid anonymity rather than assigning gendered pseudonyms, it is hoped in doing so that this allows these seven individual stories to blend as one school story with common themes emerging. This presentation of narrative is to help create a snapshot of these DEIS school's teacher's experiences within their school community, whilst experiencing a global pandemic and the shift in education that has caused, as the narrative approach acknowledges the "legitimacy

and power of an individual's experience, and the role this individual experience can have as a catalyst for reflection and insight" (Moss & Pittaway, 2013, p.1009). Awareness of the wider contexts, enables the thoughts and reflections presented in this narrative to gain greater understanding of the whole experience in that moment and the ability to continue the story and move forward as a school community.

4.2 Continued Duty of Care

The teaching profession has been known for its sense of duty of care towards students, especially when it comes to their wellbeing as a whole. Teachers are in such close contact with students on a daily basis, and it is no surprise that this contact and communication was deemed so important by staff who were interviewed. The teacher and school's duty of care was paramount, being able to connect with students and ensure they were ok, were able to access education and have other care needs met. In my own reflective journal I noted during this time period that as a staff we were continually asked to highlight students of concern, food and care packages were organised for students and their families that needed it, devices such as laptops, desktop computers and wi-fi connections were distributed to students so that they could have continuity with their education and be able to connect with their teachers. We were always very mindful of these needs. There was a recognition by teachers of students who were not engaging, who couldn't engage and this information was fed into management on a continuous basis.

> I just remember around that time that the initial thing was to make sure everyone was alright, I suppose being on the management team that we were more afraid of the student's welfare. So that was our the initial thing…When you look back on the start of lockdown, so many kids were pretending they're doing stuff, then you couldn't get in touch with them, they didn't have the devices…In fact a huge amount of my time was actually getting devices out to students too. So we were actually sending,

delivering them and the Guards helped us a bit as well to actually deliver the devices out to people. So there was a huge issue of students even trying to work at home. And maybe they only had one phone between them all to access stuff.

Interview 7

"So generally, after about two weeks you were realizing it was the same kids [engaging online]…But there was a lot of not them responding.**" Interview 2**

Teaching in a DEIS school can be challenging, students expect you to be there for them, to be strong and continue performing your role as educator, mentor, carer, regardless of your personal circumstances or how they may even enter, behave and act in your classroom. "Supporting wellbeing in DEIS schools is a particular focus" (DES, 2017, p.38) and is extensively detailed in goal three of the *DEIS Plan 2017*. You're there as a performer of these duties that cater for their wellbeing and it's so important that you can perform this act but also remember your own duty of care to yourself.

It's always hard coming back after your summer holidays, always hard. I always struggled getting me head back into the thing. I always come back in a week or two early. Always do, I always have always will because I can't just walk in the door and start teaching. I have to come in, orient myself, get the room ready…but just really just to get myself back into work mode. 'Cause when you're off for three months, you just turn into a veg, my brain just and it's great that it does, because I couldn't do this job if I didn't have that, I'd be burnt out years ago. It gives me time to just unwind and forget about it, 'cause it's a pressurized job. You're under pressure all the time to perform. It's a performance. Every day you walk into your class. You perform you have to stand up and perform.[laughs] And you're not allowed to have bad days. I know we do, but you're really not allowed because the kids won't let you. If they're having a bad day, they don't care if you're having one or not. Now if they're having a

bad day. They're going to push you to your limits because you're there for everybody, even them ones. So when you're trying to teach the students that want to learn and the ones that are having bad days are kicking off. And giving you trouble. You have to be [laughs]. You have to deal with it. It's hard. You have to be mentally and physically up to it. And if you don't, and I know if I don't get that time to unwind. I won't, I can't, I couldn't it keep up. But I'm lucky in the fact that I have a lot of other interests in my life that keeps me focused, that keeps me young and busy, keeps my brain going.

Interview 6

This idea of duty of care extends to both students and teachers alike, it is important that the teacher is able to connect and recognise when a student needs need to be met, but equally it is important that teachers recognise that their own duty of care towards themselves, and sustaining that allows them to continue in their duties as educators. This idea of looking after oneself became apparent to a lot of teachers during their time teaching during the pandemic and the emotional strain that it was having on them. This aspect of teacher wellbeing, resilience and stamina required to engage with the profession and even meet the duty of care needs of their students highlights the demands and the required adaptability of the teaching profession. This concept will be delved into further in the final theme.

It is important to note that teachers were not only facing technology changes during this time period and adapting their teaching but also taking on new responsibilities around immediate care for the students in more need. In some cases, our school was delivering laptops, Wi-Fi devices and even food parcels to students and their families, calls were being made home to students and their parents by members of the management team to check in, and teachers and class tutors maintained email correspondence with their class groups. This continued duty of care was the immediate response created by the closing of schools and

brought some issues like the digital divide that occurs in disadvantaged areas to the forefront of Irish media outlets.

4.3 Evolving emotions

Emotions continually changed during this period of education, especially because the job satisfaction that comes with teaching was hindered by the online teaching experience, the interaction with students was diminished and the environment was different. There was an invasion into personal lives and creating the balance between the two was difficult to manage.

I even remember even saying to our principal that, at one stage 'Oh my God, this is just an invasion on my life' like I literally, at certain times I just had enough that I was all day say delivering classes and then there might be other things that I might have to do with my year group and different things. And I might not have as many classes as some people who, but still I've been working all day and then trying to like everyone, don't make excuses but I had family commitments at home that kids need to be fed, so I was finding myself that I'd be doing my work during the day and where I would be normally finished. I might have some things in the evening to do, it was fine when my kids might go to bed, but I could be up to 12 or one or even later actually preparing for the next day. So it was sort of by the end of the week just felt, Oh my God, my whole life has been working from the time I got up until the time I went to bed and with a little bit of me or family time in between, it was, it took over for quite a while. So, so it was very, very difficult. And then the satisfaction out of it was miniscule at times.

 Interview 7

The challenge of online teaching was taken up by teachers, some who really embraced and loved the challenge, but became very aware of the mental drain that was involved with

online teaching, especially with delivering live classes whilst also still worrying about their students mental health and wellbeing, and that theme of duty of care being shrouded in concern, anxiety and worry by the teacher whilst also struggling to juggle their new workload. There was a blurring of professional and home identity for staff, with home life being impacted by the added workload of preparing material suitable for online delivery, for checking in with students, contacting parents and liaising with school management. This produced a myriad of emotions; exhaustion from work overload, frustration from lack of engagement and the uncertainty of what students would participate on a daily basis which affected job satisfaction.

> So the like the one thing for me was the love of the challenge. I just like I love those you learn as a teacher and then being able to after the first lockdown go back to my classroom and give it to the students. Yeah, and then feel comfortable going into the second lock down knowing I can do this. This is fine, you know and but keep it going. And but the other thing was the mental drain. I just mentally tiredness, physically I am fine. My body was up for... but the mental drain of it all. So, it's the love. Still love of the job and doing the right thing for the students and the teaching and learning. But it's the mental drain, not just sitting at a screen the whole time, but it's, I suppose the mental of, the mental drain around the worry too, around the students and stuff like that. Are they OK? Speaking to them but still not connecting with them…But it was like just the mental drain and I suppose wellbeing and mental health has been raised so much throughout this pandemic. I consider myself lucky that I have a wonderful job that I love and there's many people out there suffering a lot more than me. When I say mental, not for me. It's not mental health. It was just mentally drained and sitting in front of a screen all day. But you do it for the love of the job that battle with yourself, and plus I suppose as a parent. I also was running around with primary

school in the front room, Google Classroom, and then I had a secondary school that was at Microsoft Teams and I had a college student and it was like and I'm trying to be on classes as well so...It's trying to get your life balance right and you're trying to do right by everybody and that's what I'm talking about. And if you don't, if you if you feel like you're slipping a bit. You are so bad on yourself, but you can only do your best.

Interview 4

There is huge determination and motivation here, the desire to feel confident and comfortable in their new working environment, there is definitely that internal drive present in this piece and it is due to the love of the job, of learning and of overcoming challenges. This drive and desire to learn is very much so apart of their professional identity. The resilience of the teaching profession is again seen here, the continued effort to engage with students, balance home life and the mental drain and exhaustion that has arisen from working and adapting to this new work context. There is the mention of this being a battle, which paints a very vivid image and it is certainly from the evolving emotions caused by this situation, the love of the challenge, job and learning, the drain and exhaustion it is causing, the worry about the students and about maintaining a balance in their own home life along with the pressure to do your best that can result in disappointment with oneself, frustration and anger. There is a myriad of emotions present during this time period, and engagement and recognition with these will be important when reflecting about outcomes achieved post-covid and not becoming vexed about what may not have been achieved due to the situational contexts or challenges with technologies (Huges et al., 2020, Bertacco, 2020).

A lack of engagement was noted nationally especially for students from disadvantaged backgrounds (Fhlannacha, 2020, Devitt, 2020). There was that lack of connection that teachers have with their students in person, that sense of community,

belonging, and care that goes beyond just teaching a curriculum, that is so desperately needed in DEIS schools. With many teachers wondering about the welfare of their students but also being left feeling demotivated, isolated and frustrated at the experience.

I think the main problem online teaching and I felt it then and I still feel it now is the responses, is the lack of engagement that you feel as a teacher when you were delivering your content. Kind of like 'Is anybody there?' and the students were reluctant to respond to questions that you asked than if you were in a classroom environment, it's much easier to draw out that information, where when you're online they feel that they don't necessarily have to answer, and they leave you hanging a little bit, it's a little bit demotivating as well from time to time.

Interview 1

There is evident feelings of isolation created by the use of technology, the engagement is not the same as the classroom, and here it is felt that online is inferior (Hodges et al., 2020). This lack of engagement and communication from students is demotivating and can attribute to teacher's confidence and self-efficacy towards using technology to effectively communicate and recreate the classroom experience, which may further the stigma of online learning as inferior to the classroom experience (Hodges et al., 2020).

Devitt et al., (2020) highlighted the centrality of the teacher's role in students continuity of education, "DEIS schools were 3 times more likely to report low engagement" and that "teachers who reported low self-efficacy…were more likely to report lower levels of student engagement" (p. 1). This lower engagement in DEIS schools could very well stem from the loss of face to face contact time and other care and social needs that are not being achieved due to remote teaching, that are usually met for these students cohorts in school. A lack of knowledge or access to technology could be part of the barrier created by social context (Berry 2020), resulting in lower engagement, feelings of isolation and demotivation

for the teachers and potentially the students as well who have lost face to face contact during this period.

It is important to remember that technology is not easy for everyone, and there is the assumption that students and teachers should find it easy. Teacher self-efficacy towards technology is a huge determinate on successful implementation (Konig 2020, Babic et al., 2020, Fhlannchadha, 2020, Devitt et al., 2020, Grande-de-Prado et al., 2020, Stenman, 2020, Scully, 2021). Learning to adapt has proven frustrating because of lack of knowledge, but the potential it can provide in education excites teachers into wanting to know how to utilise it.

I don't find it easy. It frustrates me, technology frustrates me. I love it and I hate it at the same time. I love what it can do. But I hate that I can't do it. I hate that I don't understand it enough to make my life much easier. I'm sure my life could be so much easier if I knew how to use it better. OK, I'm getting there. I'm learning everyday about the new things I can do with this. But it's a two way stream, it's me and the students you have to connect with somebody see, so connecting with them is like, I can connect all day with anyone who knows what I know. But if they don't know how to accept what I'm trying to give them then I'm wasting my time.

Interview 6

Emotions play a vital role in teacher wellbeing and professional identity affirmation. There was the desire to engage meaningfully with students online and utilise technology, but lack of knowledge, self-efficacy and or engagement from students has an impact on the teachers' outlook on the situation, resulting in a range of emotions such as frustration, worry, anxiety, demotivation, disappointment. The connection teachers have with their students, the communication and engagement through classroom interactions affirms their professional identity and continued desire to learn and be motivated in the workplace. There are evident gaps in knowledge, both by students and teachers that need to be addressed to improve the

emotional outlook on learning with technology. These emotions need to be addressed but with an awareness of the emergency remote teaching situation that has occurred, and an acceptance that learning outcomes that occurred may not meet expectations (Hodges et al., 2020) normally held within the teachers' own professional standards within their classrooms. Once these are examined, an understanding to barriers to learning and the use of technology can occur, which in turn will enable identification of school needs in regards to training, access, devices et cetera (DES, 2016) for future planning.

4.4 Barriers

A lack of knowledge and understanding on how to utilise platforms was an initial barrier to the learning environment, for both teacher and student, causing a myriad of emotions. Barriers to creating and accessing online classroom space became apparent for teachers. A lack of training and understanding was evident. As well as an issue of professional identity for teachers who were unable to deliver lessons as they previously had done, especially when there was no clear return to the physical classroom in sight during the first school closure. When online learning commenced a few weeks after school closure, familiarity with digital platforms being utilized caused barriers to online education during this emergency remote teaching, this was intrinsically linked with teacher and student confidence with using the technology. (Fhlannchadha, 2020)

> First lockdown was a nightmare. I have to say I did very little online work. 'Cause I was at home. And I didn't know what to do and I had no idea how these things worked. What I didn't know what teams was, I didn't know what online was, I didn't know how to interact with anybody, I've no internet at home, I came in and got a thing [wi-fi device] off **Principal's name** here. I brought that home with me and that didn't work either. So no matter what I did, I was just coming up against a brick wall and the kids weren't interacting. It was the first time ever doing that, so you were kind of

trying to, I was trying to do a lot of things. I was trying to set up my shed. I tried to set

that up for physical stuff. I couldn't get Internet out there. I ended up just giving up at

one stage, I just gave up. So I didn't do much in the first lockdown, I have to say, and

I'm not, I'm not ashamed of it. You know, I'm not ashamed to say it because I just

didn't know what it was doing, I had no idea.

Interview 6

Teaching efficacy within a new context became challenged, internally struggles with

emotions and understanding, as well as external struggles with being physically unable to

connect and engage with their work. It is very important here that the participant accepts the

situation without blame on themselves, it acknowledges the unprecedented situation that is

beyond their control. This initially means that learning during this time period may not have

been achieved across all classrooms and subjects, and would present challenges for making

up for lost time in the next academic year. This lack of control on the situation, and the

context in which teachers and students found themselves trying to engage with the learning

environment posed barriers that may not have been easily eradicated during that first

lockdown and school closure, the lack of knowledge around technology enabled barriers to

engagement which prevented the learning that would have occurred face to face. These were

addressed upon reentering schools to the best of the teachers' and schools ability, with sixth

years being timetabled for extra tuition time to aid their preparations for their Leaving

Certificate examinations, state examinations were adapted to acknowledge the loss in time

learning and Junior Cycle classroom based assessments were amended to one assessment

being completed over the two years rather than two being completed.

This issue with reliable broadband is noted in an Irish study conducted by Coyne et

al., (2015) that was in light of Ireland's National Digital Strategy; high-speed broadband roll

out to all second level schools to aid a greater use of ICT in education. The combination of

limited knowledge and inability to access reliable broadband on the educators part presented a barrier to education for students and for the educator wanted to connect with their class. It was noted by another teacher that there were issues with using mobile devices and the number of Microsoft apps that could be accessed on a mobile device, issues with using Teams became an issue and it was only later on when they understood the applications better that this barrier of access for students became known. With more knowledge and understanding before the second school closure, some of these barriers elevated.

In the previous examples, it is evident that barriers have heightened emotions around frustration, have created feelings of isolation and the barrier between face to face communication has diminished the joy associated with teaching and interacting with students. Barriers is a theme that permeates all themes, and should examined simultaneously with other themes due to its more integrated nature, barriers were created in communication and connectivity which affected duty of care, this was caused by both deliberate lack of communication on the students part and the inability to access devices to engage with the learning environment.

> The students that are experts at avoiding, it's just unbelievable and you might have a third of your class in one day. You might have three quarters of them in another day, certain days of the week, at certain time of the day. you wouldn't know who you're going to get and who would actually unmute to actually say something to you. So I can still picture a guy that literally, I would have to, there was lots of messages, home ringing, emails or text to parents to get this guy to start going to classes and when he started doing classes you wouldn't unmute. And I knew he could hear because it came maybe unmuted, and then suddenly on mute and then I'd ask him a question, not once did I get this guy to actually talk, and I was actually worried if there was something wrong with him, and it was only when he came back he started laughing that we

would have brought it up! Now, I sort of let him know I wasn't too happy but still it was three months, three months he managed not to say one word. Not one word. And now he's only an example, just there was a huge amount of that.

Interview 7

Some students went off the radar and did not engage, school management and staff tried their best to engage these types of students, through class tutor emails, and phone calls home made by the year heads. Consequences to these barriers and lack of engagement during the first school closure would create further barriers in learning and curriculum content knowledge that teachers would have to accommodate during the next academic year. However, some students continued to avoid engaging during the second school closure, which may have been for a multitude of reasons, for example family commitments, lack of motivation, unsuitable work environment et cetera. This will continue to create barriers for these DEIS students and their teachers in achieving learning outcomes in future academic years.

It is important upon reflection to remember the context in which this learning occurred, and we may never have complete insight into the home context in which students and teachers found themselves trying to engage in teaching and learning. There is a need to rethink desired outcomes of learning due to the current context and not become vexed with technological challenges (Huges et al., 2020, Bertacco, 2020). This may be an opportunity for curriculum reform or assessment reform with a focus on what exactly is the key learning that needs to be achieved in the classrooms.

4.6 Evolving Learning Environment

School closure came as a shock to many in March 2020, Coronavirus was only something recently in the news and to a lot of Irish citizens, it felt distant and not something for us to worry about. Noone in the teaching community really thought that we would be

closed for as long as we were in the first lockdown, it probably felt like an early holiday before St. Patrick's Day. When online learning commenced a few weeks after school closure, teachers had concerns on how to replicate the classroom experience or enhance the learning available through online platforms (Chagas et al., 2020), for the majority of the first lockdown, it was assigning work and checking in with students via email or whatever platform that was being utilized.

> I remember the announcement being made. I remember being in the administrator's office, with the principle and deputy principal and we kind of all just looked at each other and said OK, we need to kind of inform the teachers and stuff so I know for me I don't know why, but I had already all my students set up on it Edmodo. So, I didn't go into a mass panic. I thought that's OK because I had been using that. I had been using it with my students in the classroom already, so for some reason I had them all on their teams so that I was feeling quite calm about it, but at the same time, Edmodo wouldn't be allowing me a live interaction, so that was always in the back of my mind. I might be able to post assignments but how do I actually, establish an online kind of classroom. So very lucky in this school at the principal forward thinking was able to provide teachers very quickly with training. Jumped on that straightaway with teams, completely different platform. And I just went for it, and I just thought to myself. If you don't do this now, if you sit back and be nervous, just go the way you teach your students, mistakes are good, you learn from them. So I just jumped down and it was actually very good and from then it was about me making sure that I was prepared and that I had the training and that I kept going with it so that their experience and their learning would continue.

Interview 4

During the second school closure in January 2021, online live classes had commenced, students and teachers were following their normal timetables for classes, but within our school context, students turning on their videos was discouraged, and there was concern of teacher's being recorded. Students digitally signed contracts agreeing to a code of behaviour online for live classes. However the inability to see students, and the struggle to communicate and interact as one would in a classroom continued to hinder the online learning environment compared to how learning could be conducting in the physical classroom.

> We got them to unmute with a struggle sometimes. But the video was out of the question. We didn't even try and go there. There was once or twice students did turn on the videos when I said listen do you want to say something to the other students in the class and you can see that they might be in bed or some students will say listen I've four other people in the room here or, some people were more or less in B and B's, bedsits and I can still picture one or two students, great, it's actually a great student that I'm picturing now, that she would answer questions anytime I'd ask. She would do her work and the whole lot and I know she's got a very, very busy family home and I think they might be living in the bedsit or something. But when she'd unmute to say something you could hear three, I don't know how many kids there were, but, kids crying, shouting, fighting and she still would be answering questions and they just have bedlam all around them. So we decided it wasn't a good idea to push to turning on the videos, but by not being able to see the students, it's just, it made, it's you know, so much more difficult, with a lot, well most of them in fairness. Certainly three quarters at least. So, it wasn't an ideal situation. And in fairness, I'd say, maybe what I'd get done in, or the work that I would get from students in five classes while we were off I might get covered in one class while we're back. So, the

workload that was getting done wasn't much by most, by a larger percentage I suppose, but now some that did do the work and continued on, right did get the work done so it was good for them. Their work continued through. Work went on it, it moved on. There was no indiscipline to stop you moving on, but you don't know, you just didn't know who knew what or did what. And you tried to get as much interaction as possible and the ones that did try, it did move on for them, so I wouldn't feel guilty in that way, that you know that it still moved on and the education was there for the students that wanted it, and wanted to interact.

Interview 7

This experience really highlights how the home environment for students wasn't a suitable substitute for the school environment. Student avoidance and the non-verbal contact from students added to the barrier in education and allowed for students to disengage with little repercussion from teachers, the unsuitability of their own environment, having to use shared spaces, passively engaging with education by being in bed or not completing and submitting work for feedback after the live lesson. Students that didn't or couldn't engage missed out on their education, and the fact that they were not in front of their teachers it was very difficult to assess the learning that had actually occurred, with classes and curriculum continuing on for those that were able to engage with the work.

There is a perceived stigma towards online teaching, and is generally considered the weaker option of teaching, this notion could have be solidified due to the rushed nature of emergency remote teaching. (Hodges et al., 2020). There was a sense of relief for teachers returning back to some sort of normality in the classroom, that education could continue in person, where teachers felt more confident in their ability to connect and engage their students.

It was good and very nice to be back in the classroom and even to, to be present with children with masks to me was better than online. They were more engaged. The masks kind of subdued, a lot of the bad behaviour from classes so, it was definitely more productive in terms of being back in the classroom than it had been both in Covid and probably the previous year. **Interview 2**

A move towards integrating technology more into everyday school life was needed and this was seen when schools returned in September 2020, and again in March 2021. This concept of digitization within schools has recently attained importance (Konig et al., 2020), with connections being made in closing the gap between conventional learning and developing the necessary skills for an ever-growing technological economy, that 'creative and innovative' problem solving and the opportunities within the school context to utilise technology and digital resources should integrate ICT within the curriculum (DES 2008, 2015, 2016). This closing of the gap, and developing the learning environment to do so links in with the school's undertaking of the P-Tech programme and emphasizes the relevance of doing so given the circumstances created by Covid. The guidelines around the taking up of student work, giving out worksheets or notes and how long that needed to be isolated for before correcting and giving back, meant that in order for school life and work to continue running like it had, the need for utilising technology and digital formats was crucial. Teachers continued to utilise technology to maintain the learning environment in the classroom whilst also following social distancing guidelines.

So for me, coming back into the classroom, the big difference between being online as a practical teacher, It's very hard, I had to find a way to give a demonstration because normally in the classroom we have more up and all around you. Even coming back into the classroom, I couldn't have them still up around me because of Covid guidelines, so I've always loved that idea of the flipped classroom. So the whole

experience of lockdown for me was the building of resources as a teacher. I have so much resources now that I can simply switch any film or video I've made to suit any classroom. So I can put a video on the classroom and students who are powering ahead who are very kind of self-motivated, they can carry on with it and then it allows me then as a teacher to go to that one and one to the students who kind of need to stop and pause and ask a question. When we first came back to the classroom as well, we had the principal had put in place mobile laptops so that allowed me to get the laptops into the classroom say to the students 'right on teams, I've posted a video, everybody watched the video, stop and pause when you need to call me down.' So, students were kind of starting to switch to leading their own learning and that is what the big push in education with junior cycle is. It's very student centred. It's kind of building self-confidence. And then the other thing I decided to do when I came back in was switch to digital sketchbooks.

Interview 4

This adaptation caused by online teaching allowed teachers to refocus, adapt in classroom practices, create resources and enhance the teaching and learning for their students and for themselves as practitioners. But the issue of access to devices for students still remained an issue. Students were leading their own learning, being able to utilise online platforms allowed for this ownership of work to be passed back to the students.

I think to be prepared and get more familiar with what's available and to have the one thing in the school is definitely much better than going between different platforms, and to have those expectations for the students from the start, they do need to know how to use their emails. There's a lot of simple stuff that we assume they know that they don't. That we've got to get better with. They like doing creating on PowerPoint. They like the animoto. They like doing picollages and it's good that they then have a

bank of stuff there, something that might be a little bit different which we tried this year, which was the JCSP folder. Which and before we had a filing cabinet upstairs and more chasing staff for work. And now we have Microsoft Teams folder for first and second years and it's like, 'well, you go through your copy, you go through your projects, you pick your sample of good luck and upload it.' Yeah, and there's some great stuff in that and that is a brilliant change for us both, keeping records and for the children involvement in their samples of good work 'cause it is what they pick…That is a definite move forward and the whole idea of the filing cabinet we're...we're not going back [laughs]. But the Department at the moment are still saying we have to have physical folders, so if we... we had an inspection. It will be a case of right we need a day to print out this stuff out and put it in a physical folder. But, I think it's a better way of the kids doing it and I think it's a lovely idea going forward whether it was JC JCSP or not that a child would have a folder for samples of good work.

Interview 2

There were still challenges in student expectations, what they expected in the school learning environment due to previous experiences of school. The reliance on technology and reliable broadband still posed issues and teachers continued to learn to adapt to the learning environment and navigate best practices for the continuity of education.

Teams got more of a thing and it be,... there was little hesitancy initially, 'cause definitely students, not so much the sixth years, the fifth years are kind of looking there waiting to be entertained and not, you know, and so, and you realize that there's no books not going to be touching copybooks and one student in particular, in fifth year, has a clean copybook and a Covid copybook and they never meet like, and his clean copybook at home her doesn't want to bring to school so he only carries a copybook to school because in case he needs it like yeah so and then he would be

quite strict about that like and he's right, he's right. He's from **Country**, so but otherwise it's kind of getting down to get on board again to move like not all of them, some of them are on board 'cause they're the ones who are doing the work at home. But for me it's using, there's no point to be writing anymore. It's all up on the projector and then I might supplement with a little bit of writing. And if need be, I can go back to chalk and talk if the Wi-Fi goes down, I had to do that the other day with the fifth years as well, but it's to kind of good to get them, Yeah, to use this more, yeah.

Interview 5

Technology has allowed educators to hand back ownership of work and responsibility back to students, and highlight that students are responsible for engaging with their learning. Student engagement is being highlighted to the students themselves through applications in the online learning platform and students are being encouraged to have an awareness and take ownership of this. The learning environment is continuing to change and students are becoming more cognisant of how their efforts affect their outcomes. The need for online platforms whilst in school for teachers that had to work remotely also changed the classroom learning environment and highlights the possibility for education to continue in these instances. However, again, it is deemed by staff not to be as effective as in person, face-to-face teaching, this could be linked to the perceived stigmatism to online teaching (Hodges et al., 2020).

We are back a week and a half, so we've only met each group of a few times, it is great ammunition to have in fairness to be able to put up on the screen and go look, this is how many have looked at this assignment. This is how many did that assignment. It was good for the information to show, this is the information I've gathered on what they've done, the evidence, and to let them know like this is the

evidence that I have on the working you've done and when I'm basing what your results for the Junior cert or summer exams, this is the evidence I have on it. So there's no hiding from it, so it was good, an eye opener for a lot of students. The use of the online platform for teachers that haven't come back for health reasons, whatever reasons, that they're doing online classes with us, it's evident that it's possible to do that now, however you need a teacher in the classroom, but people can be working from home, not ideal, certainly not as good as being in class with the students. But it's possible to for classes to continue if someone has to be at home, and so you have to use of the IT was still good there. I have given one or two assignments, not as many as I would have done, but I've given the assignment, sorry online assignment, I was giving the assignments nearly every class while we are off, but since we're back I have given some written ones. Did ask one or two groups to actually take a photo of problems and assignment, but haven't pushed it too much in fairness. So, you reminded me, maybe I should step that up again before we go out again.

Interview 7

There is huge potential for change in education, that allow for the integration of technology, such as the use of visualizers, touchscreen laptops to write on and project onto whiteboards, microphones to project voices as utilised by some teachers in this school, and for the increased ownership and responsibility of work for students, the potential to collaborate more as colleagues which is a desired outcome in domain four of *Looking at Our School 2016* (DES, 2016), and to assess students learning in newer more innovative ways that creatively use technology, the ability to differentiate work for students in a more innovative way.

That's going to change the way I'm going to teach in the future, so I'm going to be using this more [touchscreen laptop and projector] in there because I can do that[demonstrations that can be saved digitally], yeah. So I don't have to do that as much. [digital version versus paper version]. Right also I can, I can save this now as a picture. Yeah and I can upload it into teams. And I can push it to teams, for students that are heading for a higher level. And they are all the students that are ahead of everyone else. Yeah I can give them extra stuff through teams. I can send them stuff as an assignment. Like I said, **student name** an assignment yesterday and she got it back to me this morning. Just her because she is ahead of everyone. She's doing more work than everyone else. And I said right, I'm just going to keep giving you work so I did and she sent it back like comment it, and I give her more work, you know, so I can do that with anyone now that I would never have done before so that's changed as well. That's changed the way I use this now as well. It just means, I can, because when you're in a class of 18 students, 20, 22, 24 students, you don't get the time to get to everybody, you're usually focusing on the people who are struggling. And everyone else then you just have to go, 'ah you're doing grand off you go!', but now I can say, 'right, you're doing grand, off you go but, I'm going to push you, so I'm going to give you more work to do.' So as soon as I get a chance to get on and go, bump bump, bump [mimicking clicking things on a laptop], Open page, do this, do that, bump and sent. And that is easier to do then now, because I understand how all this works, do you know.

Interview 6

The above experiences demonstrate an awareness of technology as a useful tool in the learning environment and the potential it has for student autonomy over their own work. There is the ability to highlight active and passive engagement by students using functions

within teams, an analytical tool within can show who has seen assignments, who has submitted and the time spent by individual students within a particular class group's teams page. The use of this platform is changing the learning environment, in student ownership over work and the teacher's ability to discretely and time effectively differentiate work through the ability to assign works to select individuals, as well as the whole group. This ease in the differentiation of work through the online platform could aid in pushing more capable students to greater achieve their potential, whilst also provide support to weaker student by scaffolding assignments more tailored to their needs. Students are encouraged to engage with technology to demonstrate their learning, through PowerPoint creation, different applications like animoto, completing of online quizzes as part of assessments with instantaneous scoring. The seamless integration of technology over physical collecting of copies and use of books, highlights the potential for schools to become more paperless with students organising notes digitally and becoming more digitally literate in the process, portfolios of work could be created online to demonstrate learning, and some assessments could become digitized through quizzes or online submission of work.

4.7 Adapting Professional Identity

Professional identity has been challenged throughout Covid, teachers have adapted and grown to meet the care need of their students, to overcome the myriad of emotions that working with technology and a pandemic has produced, to understand and tackle barriers and the ever-changing learning environment. It is important to recognise that throughout looking at the previous themes the professional identity of the teacher has evolved and will continue to adapt as teachers look towards what is next in education and how technology could influence this.

The willingness to adapt and change was very evident amongst staff, but there was apprehension from some, especially being unsure and unfamiliar with using technology and

different platforms to communicate with students. There were plenty of challenges discovered during that first lockdown. Devitt et al., (2020) highlighted the centrality of the teacher's role in students continuity of education, and the need to understand the teacher perspective during policy development. The key findings of Devitt et al.,'s study about student engagement are very illuminating, in particular that "DEIS schools were 3 times more likely to report low engagement" and that "teachers who reported low self-efficacy…were more likely to report lower levels of student engagement" (Devitt, 2020, p.1). This lower engagement in DEIS schools could very well stem from the loss of face to face contact time and other care and social needs that are not being achieved due to remote teaching, that are usually met for these students cohorts in school. A lack of knowledge or access to technology could be part of the barrier created by social context, resulting in lower engagement

There is a move away from paper based and an embracing of digital versions of books, organisation and creation documents for sharing with colleagues and with students.

Well, definitely like I was saying the digital book. I think it's a much better way to go and same when we are creating our learnings, unit of learnings, these kind of things. It's a better to have them on a document. I mean online because it's easier to share. It's easier to just say keep everything tidy as well. Otherwise we have usually too much paper and we are... I notice myself I'm reducing the use of paper way more like in in very in a short period of time I've been using way less paper than I used to.

Interview 3

Educators have had the breathing space to look at their own practice, reflect upon what they are teaching and why they are teaching it, and how the education system itself needs to change to meet educational and learning needs of students, how assessment needs to reform and adapt.

I actually have found that the online teaching, helped me, allowed me to kind of go back to focusing on the concepts of science rather than the management of students. So it's giving me a bit of breathing space to do that, which has been no harm because it kind of invigorates you to remember that that's what you're trying to impart is the whole, you know, density is equal mass over volume. This what's this mean like, 'ah'[sound of understanding] yeah, so. But we have. We've been forced into teaching for the exams like so, I wonder, though, the loss of the matriculation, and the loss of the universities and managing their own system of entry. Did that, forced the secondary schools into a system of preparing students for exams rather than preparing students for education and for life…I think that kind of messed things up for students at second level they're too young to kind of get into this this cattle..., this system of 'all we need is these points, points, points, points'. It's very stressful and it takes all the beauty out of learning and learning. Supposed to be enjoyable thing relatively speaking like do you know what I mean, a little bit of pain obviously because you have to push yourself to learn, but it's not supposed to be causing you immense amounts stress and all the rest like that's defeats the purpose entirely. So yeah, it would be good to get the Third levels to kind of take responsibility for all of that and let us just get our teaching concepts.

Interview 5

Upon re-entering the classroom teachers had to adapt their classroom practices, utilising technology to aid them in differentiating students learning, and to allow continuation of education to happen for all students, those that engaged with online learning and those that didn't. Teacher's professional identity is again in a state of flux and changing to meet the needs of their students, and that duty of care is very evident, and the emotions attached to that the determination and enthusiasm to embrace change to enable a better learning experience

for their students. The identification of the ease in which technology allows differentiation is important for future teaching and reflection upon how we distribute work to students.

My experience has been completely different though this time because I stood in front of my 5th year class the first day. The Monday go back and I literally had to split them into two like they had a seating plan and the seating plan in relation to the guidelines was by their classroom. And now I had to go into a seating plan by engagement who engaged during the second lock down, and who didn't. So, I'm again now going...I had that first week was quite difficult going. These are the students who haven't done engaged online with online learning at all, but these are the students that have that have done the work. And want to move on. So, I find that really, really difficult as a teacher. The good thing is though, I was able to pull in the resources, I had the videos there, so that's why I had to split my fifth year class and go 'OK Yous are on the left hand side. And yous are going to go to assignment one on teams you're going to watch the videos and you're going to do the assignment an if you by the time they watch the video and follow the instructions. I would have finished with the other class, but that's I think that teachers will be coming back in to face that kind of...And I know we've talked about educational divide. The haves and have nots around technology but it is a bit as well the kind of students. The students who don't have that support outside of school that that motivation, we're all different, we are all built differently you know and we all have different backgrounds. As teachers, we don't need to know the personal stuff, but because they're sitting in our classroom and there I'm a teacher standing there and they're going right, 'Teach me', so it doesn't come down to the personal and you...we just... I think that's one of the biggest things teachers are going to have to find a way... because that whole first week. I... when I got through the week I went how am I going to do this? What am I going to do? I'm

going to have my fifth years back on Monday. I need to do something. So again, it was using the resources that I had built up, and thank goodness I did over at school closure ,over the lock down with seniors, was able to pull them up, use them to pull the ones who didn't engage back up to hopefully by the end of fifth year where the others are, but keep them going forward, and you know, with exam preparation and exam work, now there will still be a different level coming into sixth year, but again it will be probably always me trying to catch them up and catch them and get them there but equal again. And I'll do it!

Interview 4

The pandemic has allowed teachers to evolve their practices with technology, and as noted in some interviews, it has happened a lot faster than if teachers were allowed to choose to embrace technology, it has been 'forced' onto educators due to emergency remote teaching and has caused this evolution in teacher's identity towards how they utilise technology and how confident they feel with it. This idea of engaging with continuous professional development that fits the needs of the teachers and needs of the school to enhance the technology use within teaching has been promoted through various frameworks (DES, 2019).

I suppose maybe like you know, Butterfly from a Caterpillar [laughs] in regards to technology. I don't know because I wouldn't be, be a luddite really. I wouldn't be mad into technology that wouldn't be my thing as such. I like technology when it's like it related to what the students know, like social media, things like iMovie or things that they can easily adapt to. You know, and I am getting a little bit better at it, so I think if it wasn't for the lockdown, I probably wouldn't have kind of come more up to date in in how I teach my class. Emm, but I have to say I do prefer face to face like there's no question there's a lot more merit to it.

Interview 1

Collaboration with colleagues is essential in the continued development of professional identity and practice, in having these interactions and formalising practices the learning environment for both teacher and student improves. However, time to do so remains an issue or a barrier to allowing teachers to continue their adaption and share practices they have learnt during this time period, for potential growth to flourish it is necessary for this collaborative time to be made available which will ensure that technology use and good methodologies and practices are maintained post-pandemic.

It's vital that we do and sometimes we find in the different subject areas and we've been great at sharing some things and exams and resources that maybe we should formalize it more. But we've been quite good in the **Subject A**. In **Subject B** for example, it's actually one group I'm teaching at the moment and it worked, I've talked well with other two that are teaching that level too as well in that year, and yes, we've shared some things, but we need to do. The relationship is there that we could do it, but we just need to find that time to get together to create these things and you need lots of meetings, lots of time, but just the way things are we or education is or whatever we don't. You nearly need days to, or even a couple of hours a week for each department or even each level, certainly each department would need hours every week to develop resources together to a high level. Now you would find that you might tweak certain things between one group and another, it would be ideal to have shared resources for every topic if you could, but it's how you do that is the difficult thing. **Interview 7**

Staff within this school have an excellent working relationship, and this is noted within subject departments too. There is the potential to collaborate utilising the expertise that teachers have gained through their classroom experience, their understanding of students and the new appreciation and awareness of technology as a useful tool within the classroom, for

subject departments to develop suitable material that suit the school's student cohort and different class dynamics that occur within the school. The pandemic highlighted the lack of resources available digitally, or suitable for digitization (Code et al., 2020, Huges et al., 2020), as many teachers had resources or pedagogical teaching methods suited to face to face teaching and learning. This adaption to digitization requires time to accumulate this knowledge and plan effectively, a consideration that should be incorporated into any future DES policy documents and frameworks.

Conclusion

There is a huge potential for growth within the education system and within individual schools once we have processed the experiences of teaching during this timeframe and continue these conversations on how to collectively move forward and continue transforming how teaching and learning occurs in the Irish classroom and the role technology has in aiding this change. DEIS teachers as demonstrated by some of the excerpts above, care deeply about the welfare of their students, their emotional wellbeing, physical wellbeing and their educational progress, and continued to do so despite the unprecedented circumstances and diminished contact that occurred during emergency remote teaching. There is a greater appreciation of teachers' own wellbeing, acceptance of the limitations in learning that have occurred because of the given context, yet there is still a drive to ensure that students are not left behind "it will be probably always me trying to catch them up, and catch them, and get them there, but equal again. And I'll do it" **interview 4**. The determination and sense of duty to create that equal level playing field that Delivering Equality in Schools (DEIS) strives to achieve, is evidently present in the professional identity adopted within this school. There are plenty of barriers because of the social context, the digital divide, and further barriers within classrooms may arise in the next few years due to lack of engagement, but it is clear that teachers in this school are moving forward in the evolving learning environment and adapting

their practices, learning from this experience and embracing technology as much as they can

to achieve that continued sense of duty of care to their students and meet their needs.

Chapter 5 Conclusion

5.1 Introduction

This research aimed to explore the experiences of teachers in a DEIS school teaching and using technology during a global pandemic. This was conducted through semi-structured interviews, and thematic analysis was applied to the transcript. The aim was to produce a narrative piece that would depict the story of these seven individual teachers in their school context in the wider context of the Irish education system whilst a global pandemic occurred. This research aimed to highlight a shift in teacher's engagement with technology, that was accelerated due to circumstantial needs to have continuity in education, teaching and learning due to emergency remote teaching.

The narratives detailed in the findings and discussion chapter are selective snapshots of the overall experience and story behind this experience. They highlight the struggles, achievements, emotions, learning experience and reflections on individual experiences. It was not possible to include all the interesting moments and thoughts presented by the interviewees and those presented are intended to be most representative of noteworthy moments, stories and reflections. The excerpts included highlight five prevalent interlinking themes that emerged throughout the different interviews; Continued duty of care, evolving emotions, barriers, evolving classroom environment and adapting professional identity.

There has been a wide variety of experiences described by participants during interviews, with common themes emerging that resonate with the literature about teaching and technology and that warrant further examination for the better development of education policies and frameworks in Ireland.

There is a global recognition in education that a move towards digitization (Konig et al., 2020), towards students gaining more 21st century skills are needed for the ever-growing technological economy and society that we live in (Devitt, 2020, Fhlannacha, 2020, Berry,

2020). There has been an acceleration of this digitization and embracing of technology by teachers to meet learning needs and outcomes, to continue the learning environment which is due to the changing educational context caused by the pandemic. New practices have entered the classrooms, in both the physical and digital space and learning has evolved beyond the four walls of the classroom thanks to the adaptation of the teachers during this time.

During thematic analysis 5 key themes emerged and were presented in the findings and discussion chapter. These themes are; continued duty of care, evolving emotions, barriers, evolving learning environment and adapting professional identity.

5.2 Continued duty of care

This is deeply driven by the sense of community within schools, teachers care deeply about the emotional, physical, mental and educational welfare of their students, and this will always be present in education. This was very evident throughout the interviews, and this sense of school community and connecting with students was evident in some of the literature also (Berry, 2020, Stenman, 2020). This community of DEIS teachers and schools needs to supported, and more resources need to be made available and current resources need to be enhanced to preserve the sense of community with DEIS schools, the wellbeing of staff and students to allow for this duty of care to continue. There needs to be supports in teaching and learning during any transitional period, this could come in the form of reduced class sizes, more state funding to provide extra Home school liaison officers and guidance counsellors within the school and developing further school initiatives to support wellbeing for all members of the school community.

Teachers should continue to reflect on their role in regards to student wellbeing, recognizing and appreciating the importance of their role as teacher, and how their sense of duty of care may have changed during this time period. Their ability to highlight and recognize areas of concern for students is vital and continued communication with school

management will contribute to better future practice in identifying and addressing these areas of need.

5.3 Evolving emotions

This pandemic has produced a huge range of emotions, reflection and processing of these emotions is needed to gain a better understanding of the individual and collective experience. Staff should be encouraged to discuss these and supports may need to be put in place to identify issues of wellbeing and to identify the needs of the school community. In spite of a lot of focus being on technology and the technical adaptation during this time period, it is important that we are cognizant of the emotional and relational aspects of teaching. It is these connections and emotions that make face to face teaching appear superior to online learning, it is difficult to maintain these relationships and feel connected in an online platform. This links back into wellbeing and duty of care for the self, which may need further investment to ensure that all staff are coping or have access to methods to manage and understand their emotions, these could be achieved by access to counselling, school created support groups, staff wellbeing and relationship development opportunities such as workshops or group activities.

As teachers, reflecting and understanding the variety of emotions that online teaching, using technology and working during covid have produced, will allow us as a profession to identify areas of need within ourselves as a community, opening up dialogue for support; emotionally and in identify our own learning needs towards technology. It is important that these conversations happen within schools, as a reassurance that some of our experiences were also felt by others and that this was a learning experience for all.

5.4 Barriers

Covid19 has highlighted the digital divide in DEIS schools (Mohan et al., 2020), and self-efficacy issues towards technology for teachers and students (Konig, 2020, Babic et al.,

2020, Fhlannchadha, 2020, Devitt et al., 2020, Grande-de-Prado et al., 2020, Stenman, 2020, Scully, 2021). There is a drive towards digital strategies within schools in the Irish context, evident from frameworks and policies produced by the Department of Education. The pandemic and school closures may have highlighted areas requiring urgent address, access to devices and training for both teachers and students to competently utilise technology.

There is a need for greater funding by the DES, to provide access to devices for students in disadvantaged schools, and the training for staff and students alike to utilise these devices to the best of their abilities. Access to regular training, information videos and even a school created technology support group is essential to maintain the uptake and use of technology within classrooms.

Barriers created through disrupted teaching time, lack of engagement or inability to access learning for a variety of reasons needs to be addressed. There will be consequences to this disruption in learning for years to come that teachers will come across in their classrooms. Reduced class sizes would aid in identify areas of needs, especially in disadvantaged schools where disruptions were greatest felt. A review of all curriculums and assessments are needed by the DES, and identification of essential learning content and desirable learning content, greater choice will be needed in state examinations to ensure equal opportunities for success for all students.

As teachers, it is important that our voices our heard, and experiences shared, the barriers within individual schools will be best identified by the teachers who experienced teaching during this time period. Teachers must engage in conversations about change in curriculum and methods in eliminating barriers within schools. Upskilling and embracing technology was accelerated by the teaching and learning needs presented by online teaching during a global pandemic. This upskilling and embracing technology needs to continue to aid in breaking down barriers and imparting digital skills to student cohorts, especially students

in disadvantaged schools, to enable them better access to engaging with a digitally evolving world beyond school.

5.5 Evolving classroom environment

The use of technology within the classroom has dramatically changed this year, and expectations within the classroom too, as evident from some of the excerpts in the findings and discussion chapter. Resources have been digitized and access to these have been shared with students in an online platform. Students in this school context are given back more authority and ownership over their work, responsibility and the ability to identify the extent as to which they engage online, made possible by functions with Teams, is now becoming evident. The assigning of work through an online platform appears to be a continuum of the online experience now when students have reentered school buildings, whether this will continue post-pandemic is to be seen.

Dedicated time will need to be given to teachers in their subject departments continue creating appropriate digital resources and assessments for their student cohorts, as well as collaborating on different technology and application uses within their classrooms, this time needs to be factored into school planning and an allowance for such needs to be granted by the DES. Allowing for such time to plan will ensure a better chance of continuation with technology within schools. Continued training and access to devices will be needed to allow the evolution of the classroom environment to continue beyond the pandemic. Curriculum development by the DES should consider including digital portfolios of work created by students as part of assessment to encourage the use of technology and the ownership and autonomy over work by students.

Teachers again must voice their opinion, share their experiences and their need for collaborative time with colleagues to continue developing resources and implementing technology. Teachers are in the best position to understand what works well within their

student cohorts, and how the students best utilise technology themselves. A collaboration of practices within schools will see the classroom experience to continue evolving, and will require teachers supporting and working together to achieve a dynamic that is best suited to their individual school.

5.6 Adapting professional identity

Teachers have changed the way in which they taught and engaged with technology, there has been struggles and triumphs during this time period. There was an acknowledgement by interviewees and it is evident in the literature also that there is a place for technology within the classroom setting but that technology does not trump face to face interaction (Devitt, 2020, Fhlannacha, 2020). The stigma that online teaching as the weaker option compared to face to face teaching may have been compounded by the rushed nature (Hodges et al., 2020) in which these teacher experienced emergency remote teaching, but there was a definite willingness to adapt to ensure they met the needs of their students by interviewees.

Teachers should continue reflecting on what their professional identity is, what their learning needs are, and how they may need support in adapting to utilise technology confidently within their classrooms. In doing so, reflective practice will enable the teacher to continue to adapt and identify how they can continue achieving best future practice within their classrooms and schools.

5.8 The future

There has been an abundance of experiential learning during this time period, transforming educational practices, identities and the way in which both teachers and students engage in technology. Continued support, collaboration and development of how technology fits into our classrooms, how it can enhance learning, promote independent learning and

ownership of work, create opportunities for collaborative resources and developing of plans to meet learning needs in individual schools, must be explored.

The varied use of technologies during this time in this school was amazing, the use of different applications, online platforms, visualizers, microphones, touchscreen laptops to project and draw on whiteboards and the sharing of these digitized resources with students. The use of these technologies allowed teachers to engage students with their learning during this time period, it would be fantastic to see the continued use of such things in the classroom setting in a meaningful manner.

Questions about what was being taught during lockdown, and how much material was covered compared to the classroom experience was explored by some interviewees. This looking at outcomes needs to be viewed in the situational context (Huges et al., 2020) and educators should not be vexed by any technological challenges (Bertacco, 2020) that they feel impacted on these outcomes. Educators will need to be cognisant of potential shortcomings in student knowledge in the coming years and continued adaptations to curriculum, teaching methods and priority of topics will need to be considered if issues arise. Values in education need to be looked at, with all stakeholders having a say (Berry, 2020), what exactly are we trying to impart on students, the question of teaching to the exam became evident in particular in one interview, and in another the need for reform of senior cycle to match the junior cycle and how students' work is assessed.

Individual schools should take the opportunity to determine best practices from their own staff's experiences of teaching during this time-period. This will allow for collaboration and knowledge sharing of different useful technologies that were employed, the adaptation of resources to suit digital platforms, identify the areas requiring further training and a more unified approach taken by staff cohorts.

There is still the barrier for students about the access to technology, for good practice with technology and education to continue, students themselves need to be able to access devices to continue to engage with change, to take ownership and responsibility of their work and learning and to actively rather than passively engage with their learning environment.

This idea of lack of resources and meeting the needs of the whole child and working with the community (Berry, 2020), access to teachers (Stenman, 2020), the need for teachers to be a part of policy making (Devitt, 2020), the digitization within schools (Konig et al., 2020) are all important concepts that leads to discussions of what should be done post-pandemic in schools globally. It can be argued that communication is key across all stakeholders in education, and the inclusion of community is essential for furthering development and learning from the experiences of teachers during the COVID-19 pandemic.

Acknowledging the difficulty that has been teaching through the use of technology, especially during the online period needs to be acknowledge, a re-evaluation of learning expectations and outcomes are needed

5.9 Personal reflection and recommendations for further studies

I found the process of completing this study extremely illuminating to the experiences of my colleagues through interviewing them, in participating in this research, and the informal conversations about experience began occurring in the staffroom. I am hoping that through conducting this research these stories and dialogues can continue, there is a wonderful sense of community within my own school context and I think we will continue to benefit from discussions around best practices, needs and what it is we can learn from each other. There is the potential for continued research within my school to further explore the themes presented, such as duty of care, or to focus on the concerns and recommendations as highlighted by my study, such as wellbeing, training, access to devices, or future implications in the classroom for disrupted learning during covid.

Through reading the literature I learnt of the wider global picture around teachers and technology, this really informed my understanding of different factors influencing self-efficacy, barriers to technology and the drive to digitization in schools. This drive is clearly seen in Irish policy documents that I think now need to refocus on areas in which schools need to address; training, resources and funding.

Following a qualitative approach was most appropriate for the research aims of this study, as the intention was to focus on experience, and an attempt to understanding this experience through co-constructing meaning. Conducting narrative research best fit the research question, as it allowed me as the researcher to follow participants down their trails (Riessman, 2008), as with narrative there was a limited number of participants, seven in total, due to the extended interviews and transcripts produced. Conducting and participating in the interviews allowed for the researcher and participants to engage in reflective practice and co-construct meaning and gain understanding for the experiences within our own school context. This type of study could easily be replicated in different schools, it would allow for insight into their individual context to be gained and a comparison between other types of school and contexts could emerge from more narrative research.

As noted in the literature review the quantitative research conducted around self-efficacy of teachers and their use of technology, this is extremely useful in identifying factors around this topic, and indicating what factors influence future and continued use of technology such as self-efficacy or funding. This type of research did not quite align with the research question concerning experience and therefor it was not employed for this research. However, this type of quantitative research is important as a starting point for understanding teacher interactions with technology, but could be enhanced with further studies on experience and a focus on the qualitative elements, an appreciation that there are no singular answers as to why exactly a teacher may feel a particular way towards technology and its use

within the classroom context, whether in person or online, due to contextuality would illuminate more precisely potential barriers. Further studies should consider mixed-methods, or a series of studies focusing on different elements to gain a more in-depth understanding. Areas that could be looked further into include;

- Continue gathering narrative experiences of teachers from a variety of settings

- Looking at the narrative Student experiences

- Measuring Teacher/student digital competency in an Irish school context

- Attitudinal surveys about technology

- Mixed methods, measuring digital competency and experience and thoughts of this

- An analysis of technology uptake post pandemic in the classroom

The global pandemic has transformed how educators and students utilise technology, and it would be prudent to monitor how the educational landscape and school environment continues to change or if it will regress post-pandemic. I would strongly recommend all teaching practitioners engage in self-reflection on their experiences, professional identity and methodologies that employ in their practice, especially for during this unprecedented time period, to enable them to process this experience and comprehend where it is they need to adapt and evolve to continue creating dynamic learning experiences.

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Appendix 1

Information email sent to staff

Dear colleagues,

As you are aware I am completing a Masters in Educational Practice in NCI and I am conducting research for the completion of this course.

My research is about the ***experiences of teaching using technology during the school closures and return to schools during the pandemic***. The intention of this research is to capture the story of our schools' unique experience during this time from the teacher's perspective and co-create meaning from it.

Interviews about this experience will be conducted on a *one to one* basis with myself, via Teams meeting or socially distanced (provided all COVID-19 safety measures can be followed) and will be recorded for transcription purposes. It is envisaged that these ***interviews will last about an hour*** and will be scheduled to suit you as best as possible. Further details are available in the '*information document*' attached.

To conduct this research approximately **6-8 participants** would be needed and expressions of interest to do so would be greatly appreciated. **Staff members are welcome to express an interest to participate** using the 'expression of interest form' attached, questions asked in this form are to gain a profile of potential participants and will not be shared.

Please note that the following exclusion criteria will apply during this study;

-*Staff member must have worked in the school during the entirety of the Pandemic* i.e. since March 2020 to present. This is to allow a more holistic understanding of this school's experience to be achieved.

-It is hoped that a *variety of subject teachers will be interviewed*, therefore if there are several teachers from the same subject department expressing an interest, not all may be asked to interview. You may be asked to be on a reserve list if further interviews are required or asked to do a pilot interview which may not be included in the overall study.

Thank you for taking the time to consider being a part of this study.

If you have any questions about this research feel free to contact me via email ***School email address given*** or via my college email ***College email address given***.

Thanking you in advance.
Kind regards,

Aisling Jackson

Appendix 2

Information document distributed to potential participants

Information document

What is the research about?

This research aims to look at the ***experiences of teaching using technology during the school closures and return to schools during the pandemic***. The intention of this research is to capture the story of our schools' unique experience during this time from the teacher's perspective and co-create meaning from it.

Given the recent closures in schools and move towards technology based teaching, I felt it would be an invaluable opportunity to look at the teacher's perspective and experience in using technology during this time; How are we as staff able to problem-solve, enhance creativity and prepare ourself for the ever-evolving technological world and hence deliver these skills onto students.

As our school moves towards promoting the upskill of students to enter the digital community, (through the P-Tech programme), it would be interesting to look at the diverse teacher population of the school and their attitudes and experience navigating the online and technology based teaching during this pandemic.

This study will follow a narrative research design as it aims to tell the story of a particular schools' teachers experiences with technology during a unprecedented transitional period in education. The methodology of Narrative research aligns with the my research question, as Narrative research aims to explore human experience in more depth and to look at the meanings people assign to their experiences. There is an emphasis on gathering data through story and to provide an opportunity for participants to make sense of and recount their experiences during lockdown. Data will be gathered through semi-structured interviews which will have a set of questions designed to encourage stories of experiences.

What do you want your participants to do?

Interviews about this experience will be conducted on a *one to one* basis with myself. Interviews will generally be semi-structured, allowing participants to detail what they feel is most important, i.e. tell their story. A second optional interview may be conducted at a later date if further information is required. It is envisaged that these ***interviews will last about an hour*** and will be scheduled to suit you as best as possible. These can be conducted via a Teams meeting or as a socially distance face to face (provided all COVID-19 safety measures can be followed).

These interviews will recorded by use of a Dictaphone and/or Teams meeting recording; recordings will be removed from online platforms and stored securely on an encrypted USB. These will be transcribed by myself and used in a narrative dissertation (i.e. large quotes from you may be used). Transcriptions once completed will be sent to the participant for review. Participation's information will be anonymized and all data will be stored securely.

Transcripts will be sent to participants for review, i.e. you will have the opportunity to read over what was said and if you feel you want to elaborate on anything, a second interview can be arranged to facilitate this.

Potential risks to participants from involvement in the Research Study (if greater than that encountered in everyday life)

There are no risks greater than that encountered in everyday life from participating.

Benefits (direct/ indirect) to participants from involvement in the Research Study

Participants are free to express their opinions and feelings without judgement or influence from the researcher's own beliefs, questions asked will be phrased in such a way so as not to lead participants but to allow freedom to express what the participants feel is most important about their experience with technology during the timeframe being questioned. All opinions expressed are valid as the study wishes to capture a moment in time experienced by individuals in a particular DEIS school.

The narrative produced will illuminate the complexity of human learning, gives credence to the diverse voices of the participants, attempt to provide answers to different realities experienced, and promote equality in the understanding of the participants in the research. This research knowledge and understanding that is co-constructed through the narrative process and thematic analysis, will benefit students, teachers and the school community. It will enable useful and honest conversations about the learning during the lockdown to continue to occur after the research. Participants themselves will benefit as they are involved in the co-construction of this knowledge and it provides a platform for them to process and reflect on their experience and may be useful for them to make sense of this experience. The learning experiences from this study will be noted and ways in which technology has benefit the teaching and learning experience will be highlighted and brought to the attention of management in the school to allow us to retain good practices developed during this experience.

This work also aims to highlight the strengths, resilience, reflectiveness of educational practitioners and afford them a voice in describing their navigation, self-development and experience of an accelerated need for technological use in the educational setting.

Advice on how you intend to protect the confidentiality of data. Including that confidentiality of information provided is subject to legal limitations

Participants will be anonymised, and participation in the study will be kept confidential. Any identifying factors e.g. well known turns of phrases used by the participant, or mentioning of subject for teachers of specialised subjects that would be easier identified where subject departments are very small (i.e. woodwork, music et cetera), will be anonymised unless the participant wishes their subject specifics mentioned.

Transcripts and recordings will be given code names/identification and stored on an encrypted USB and will not be shared with others.

ADVICE AS TO WHETHER OR NOT DATA IS TO BE DESTROYED AFTER A MINIMUM PERIOD

Data will be stored and destroyed in compliance with NCI's Information/Data Retention Policy. Details of which can be given to participants on request.

Details relating to GDPR Compliance if Personal Data is being sought

n/a

Statement that involvement in the Research Study is voluntary

Involvement in this research study is voluntary. Participants may withdraw from the study at any point. There is no problem if a participant wants to withdraw before all stages of the study are completed.

Appendix 3

INFORMED CONSENT FORM FOR PARTICIPANTS

Researcher name and contact details

Aisling Jackson, National College of Ireland

E-mail address: x20180764@student.ncirl.ie

Research supervisor

Dr Ita Kennelly, Lecturer in Educational Practice & P-Tech Lead, National College of Ireland

E-mail address: ita.kennelly@ncirl.ie

Research Study Title

'Teachers and Technology: A DEIS schools' experience during a global pandemic'

Clarification of the purpose of the research

The research aims to follow a narrative research design to tell the story of a particular schools' teachers experiences with technology during a unprecedented transitional period in education due to a global pandemic. Given the recent closures in schools and move towards technology based teaching, it would be an invaluable opportunity to look at the teacher's perspective and experience in using technology during this time; How are we as staff able to problem-solve, enhance creativity and prepare ourself for the ever-evolving technological world and hence deliver these skills onto students, as well as how this will influence our future practices.

Confirmation of informed consent and information document

Participant – please complete the following (Circle Yes or No for each question)

I understand that I will be interviewed online (or in person if safety measures can be followed) as part of my engagement in this research project and I give my consent to participate in this interview.   Yes/No

I have read the information document (or had it read to me)   Yes/No

I understand the information provided   Yes/No

I have had an opportunity to ask questions and discuss this study   Yes/No

I have received satisfactory answers to all my questions   Yes/No

I am aware that my interview will be recorded   Yes/No

Confirmation that involvement in the Research Study is voluntary   Yes/No

I am aware that if I agree to take part in this study, I can withdraw from participation at any stage. There will be no penalty for withdrawing before all stages of the Research Study have been completed.   Yes/No

Confirmation of arrangements to be made to protect confidentiality of data, including that confidentiality of information provided is subject to legal limitations   Yes/No

Participant identity and other personal information will not be revealed, published or used in other studies. I am aware that the confidentiality of information provided is subject to legal limitations, in accordance with NCI guidelines.   Yes/No

Arrangements to protect the confidentiality of data and anonymity of participants have been explained to me, including when raw data will be destroyed.   Yes/No

Signature:

I have read and understood the information in this form. My questions and concerns have been answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take part in this research project

Participants Signature:

Name in Block Capitals:

Witness:

Date:

Appendix 4

P-Tech information leaflet

P›TECH

An Roinn Oideachais
agus Scileanna
Department of
Education and Skills

A pathway to a career in the digital economy

P-TECH combines post primary school with elements of third-level education and workplace experience. When students graduate from the P-TECH programme, they earn both their traditional second-level qualification and a third-level qualification, and will have the work experience needed to be a highly qualified candidate for employment in IT and related areas. Each second-level school is partnered with a third-level college and one or more companies, who work together to help students complete second and third-level coursework, and to participate in workplace experiences like mentoring, workplace visits and learning, and paid internships.

In November 2018, The Taoiseach, the Minster for Education and Skills and the Minister for Public Expenditure and Reform announced the piloting of P-TECH (Pathways in Technology) in Dublin's North East Inner City. The first schools in Ireland to participate in P-Tech will be Larkin Community College, Marino College and St Joseph's CBS, Dublin. Enrolment of new students will begin in March 2019, with the first classes to start in September 2019, at the three participating schools. This Programme will be implemented as part of the Dublin North East Inner City Initiative (NEIC) in conjunction with the Department of Education and Skills. Ireland is the first country in Europe to introduce the P-TECH model.

P-TECH Goals

- Provide young people with an innovative and highly relevant education opportunity that enables them to earn a **third-level qualification**, along with the skills required to enter the workforce or continue their education.
- Address the "skills gap" and strengthen the economy by building a workforce with the technical and professional skills required for 21st Century jobs.

The Student Experience

- Take regular second-level courses required to earn normal second-level qualifications.
- Gain experience of third-level courses while at post primary school, as early as Transition Year.
- Participate in structured work experiences to learn teamwork and develop the skills needed for the 21st century workplace.
- Receive one-to-one mentoring from industry staff, and explore various careers through paid internships and workplace experiences provided by industry.
- Graduate from the P-TECH programme with traditional second-level qualification and a third-level qualification directly aligned to job opportunities in digital technology related roles.
- On completion, be *'first in line'* for jobs with industry partners, subject to availability and standard interview and hiring processes.
- Or continue in education e.g. applying to other third-level courses.

How It Works

1st year of post primary school:

Students follow the normal Junior Cycle programme and participate in P-TECH taster activities, such as industry talks, demonstrations, workshops etc. Students are invited to enrol for P-TECH.

P‑TECH Years 1‑2 (2nd and 3rd year of post primary school):
Enrolled students start P‑TECH, taking specially developed Short Courses as part of the Junior Cycle, e.g. Robotics or Coding. Every student is assigned a mentor from industry. Workplace learning, site visits, industry talks, visits to 3rd level colleges.

P‑TECH Year 3 (Transition Year)
Students commence third‑level modules, workplace‑related learning, talks, mentoring engagement with industry continues. Industry partners provide paid summer internship programme for students at the end of Year Three.

P‑TECH Years 4‑5 (5th and 6th Year of post primary school)
Students follow the normal Leaving Certificate programme for six subjects, together with third‑level modules, mentoring and internship opportunities.

P‑TECH Year 6 (post Leaving Certificate)
Students take further third‑level modules, mentoring and internship opportunities, with the aim of graduating with a Level 5/6 qualification.

Graduation from P‑TECH
At the end of Year 6, or earlier if the student has achieved the educational goals, successful graduates may apply for any suitable jobs with the industry partner, but may also choose a different job or to continue in education e.g. to complete a bachelor's degree.

There may be revisions to 'How it Works' during the implementation year 2018‑2019 while the programme is be refined.

The international experience with P‑TECH

The P‑TECH model was developed by IBM, along with the New York City Department of Education and The City University of New York. The first P‑TECH school was launched in Brooklyn, NY in September 2011. Today, more than 110 schools are operating across the U.S. Australia, Morocco, and Taiwan, serving tens of thousands of students. More than 550 large, medium and small companies are partnering with schools across a wide range of STEM disciplines, including IT, healthcare and advanced manufacturing.

By summer 2018, more than 150 students had graduated from IBM P‑TECH schools in four U.S. cities. These students graduated with both their high school and a post high school degree allowing them to start entry level positions in partner companies or continue to a bachelor's degree. Many of the students have completed the six‑year programme early — some in under four years — and many will be the first in their family to earn a college degree.

Watch what students and educators have to say about P‑TECH
http://ibm.biz/P‑TECH_YouTube15

Learn more and stay connected visit ibm.com/ptech and ptech.org @PTECHNetwork

PTECH Ireland (overview) 2018

Appendix 5

Potential interview questions, this document was provided to participants before interview

Experiences I wish to explore

1. Teaching during the first lockdown **March 2020**
2. Return to school in **September 2020**
3. Second remote teaching experience in **January 2021**
4. Re-entering the classroom again **March/April 2021**. How this will influence your teaching practice.

    What was your experience? Can you think of a specific moment that stood out? (Good or Bad)
    How did you use technology? In what ways did it suit your subject? How did you have to adapt?
    What do you feel you have learnt from this experience?

Main Question	Possible Follow on Questions
1. Can you tell me of your first day of online teaching, what was that like for you, do you remember your first class?	-How did you prepare for this? -What instructions were you given about online teaching? -How did you use technology? -What were your first thoughts about having to teach online?
2. What was your set up for delivering class online? (during 1st lockdown, during current lockdown, what has changed)	-How have you changed your online teaching style? -What was the biggest difference between the two experiences? -What did you find worked? -What did you find didn't work?
3. How did/do you feel about teaching online?	-In what ways has it gotten easier? -How has your approach to it changed? -How has your approach to technology changed? -If you could change something about it, what would that be and why?
4. What did you learn about teaching online?	-Was this a useful experience? -Will this change how you teach? -What will you bring with you back into the physical classroom? -Will this influence your subject department? -- -Do you collaborate ideas/good practices of use of technology?
5. What skills did you gain? (What skills do you think you need?)	-How did you gain these? -What training did you receive?

		-What would you like to see be implemented in teacher training to better equip teachers for online platforms and use of technology in the classroom?
6.	What technologies did you find useful for your teaching your subject/s?	-How did you use technology to recreate your classroom learning experience in an online platform?
7.	What was it like re-entering the classroom in September? Had your experience in the online classroom influenced your physical classroom and teaching style?	-How has this changed since re-entering the Classroom in March? (if applicable) -Has your use of technology in the classroom changed any further? -How did your students respond to technology use in the classroom?
8.	How did you use technology during the lockdowns to teach?	-What was your most memorable experience using technology during this time period? -Can you give me an example of a good experience? -Can you give me an example of a bad experience? -How did your students respond to technology?
9.	How could you be supported to deliver online lessons more effectively?	-What would you like to see happen after this experience? -How has this influenced your practice?
10.	What barriers if any are there to online teaching, especially for your subject specialism?	-What worked well? -What didn't work well? -What topics/aspects were easier to teach online, why do you think this? -What topics/aspects were harder to teach online, why do you think this? How did you adapt/change to try make it work? -How did your students respond to technology?
11.	What teaching, learning and skill development/acquisition was made possible by online learning?	-What did you gain from this? -What did students gain from this?
12.	If you do this all again what would you do differently or the same?	-Why/how would you change this? -What impact has this had on your teaching and use of technology for teaching?
13.	What skills do you think are most important in classes where technology is involved? What skills have you used/developed? Can you give examples of this?	-How would you like to see these skills developed for teacher's in this school? -How could teacher's be supported in gaining these skills?
14.	Can you tell me about your first day teaching during the current lockdown (Jan 2021), what was that like for you?	-What was different to the last time? -How did you change how you used technology this time?
15.	How do you think this experience will influence your future practice? Is there any	-How do you think this will affect the school as a whole?

technology that you will continue to use?	-What would your subject department benefit from by incorporating more technology into your teaching?

Suggested evaluation questions for Emergency Remote Teaching, taken form article

Chagas, N., et al., (2020). Exploring Practices and Systems for Remote Teaching, IEEE**:** 1-6.

Given the need to shift to remote instruction, what internal and external resources were necessary in supporting this transition?

What aspects of the context (institutional, social, governmental) affected the feasibility and effectiveness of the transition? (context)

How did the university interactions with students, families, personnel, and local and government stakeholders impact perceived responsiveness to the shift to ERT? (context)

Was the technology infrastructure sufficient to handle the needs of ERT? (input)

Did the campus support staff have sufficient capacity to handle the needs of ERT? (input)

Was our ongoing faculty professional development sufficient to enable ERT?

How can we enhance opportunities for immediate and flexible learning demands related to alternative approaches to instruction and learning? (input)

Where did faculty, students, support personnel, and administrators struggle the most with ERT?

How can we adapt our processes to respond to such operational challenges in the future? (process)

What were the programmatic outcomes of the ERT initiative (i.e., course completion rates, aggregated grade analyses, etc.)?

How can challenges related to these outcomes be addressed in support of the students and faculty impacted by these issues? (product)

How can feedback from learners, faculty, and campus support teams inform ERT needs in the future? (product)

Appendix 6

Mission statement (Image taken from school brochure) & Details of schools supports (taken from school website)
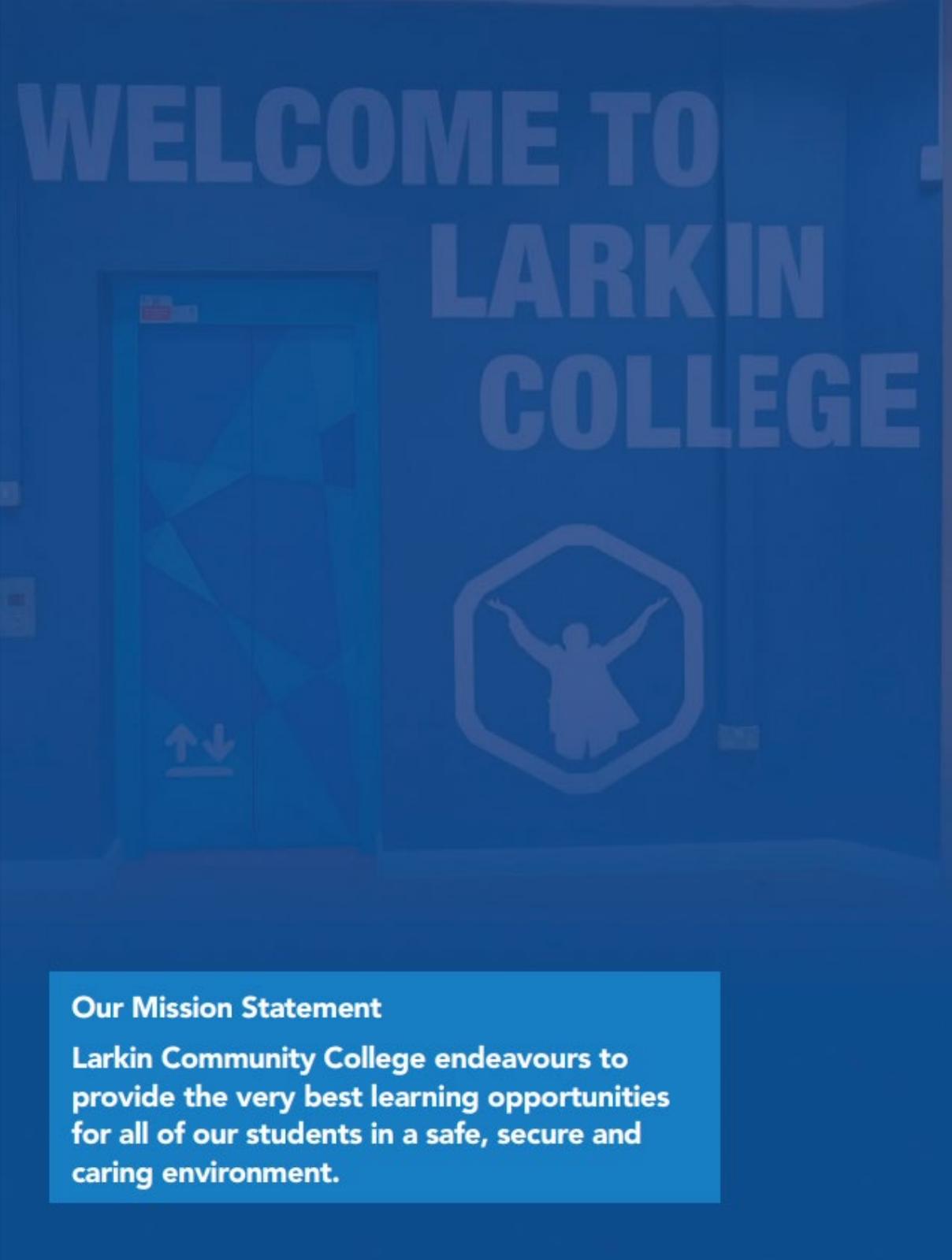
Our Mission Statement

Larkin Community College endeavours to provide the very best learning opportunities for all of our students in a safe, secure and caring environment.

School Guidance Counsellor

The aim of the career guidance department is to promote and develop guidance for all students across personal, social, educational and career choices.

The guidance dept is involved in:

- The transition of students from primary to secondary school
- Assisting students with subject choices in the transition from junior to senior cycle
- Counselling is offered to students individually and in groups as part of the developmental learning process and in times of personal crisis
- Career guidance is offered to students as well assistance with applications for further education
- Personal and Social development programmes

Chaplain

The role of School Chaplain

What is a school chaplain? What do chaplains do?

- A chaplain is someone who draws out the Spirit of the members of the school community.

Do you have to train to be a Chaplain?

- Chaplains in Ireland have a theological education.

Who is the Chaplain in Larkin Community College?

- Máire O'Higgins.

What does the school Chaplain in Larkin Community College do?

- Our success as a school is down to the fact that our staff are generous and we work together to make things happen for our students. We do all of this with love.

Some of the work of the Chaplain includes:

- Listening
- Being present with students who ask for some time out to just breathe
- Developing meditation and mindfulness programmes and initiatives
- Attending care team meetings once a week
- Advocating for young people's and colleagues' rights
- Encouraging the creativity and passion of the students and staff
- Supporting students to nurture their journey towards the world of work

- Managing some of the arts and culture partnerships in the school
- Celebrating diversity in the school community
- Building the skills of empathy and compassion and kindness with students and staff
- Working with others to organise celebratory events like the 6th year Graduation
- Remembering and honouring those who have died in our school community
- Practicing Restorative Practices with students and staff
- Managing the Silent Lunch experience twice a week
- Supporting 1st Years as their Year Head
- Helping the Home School Liaison Teacher with a Parent Council
- Supporting the JCSP programme for Junior Cycle students
- Supporting the development of the Larkin Youth Theatre

Home School Liaison

The Home School Community Liaison (HSCL) Scheme is one that seeks to promote partnership between parents, teachers, students and the local community.

We currently have one full time Home School Liaison Co-Ordinator in the school.

The main objectives of the scheme are

- To enhance pupils' learning opportunities
- Retain young people in the education system
- Promote an ongoing partnership between parents, teachers, students and the local community.
- Liaising between primary and secondary school
- Support parents in the education of their children
- Co-ordinators operate on a cluster basis and each co-ordinator liaises closely with colleagues in the immediate are