Learning in Networks through Enquiry: The Design, Implementation and Evaluation of an Online Intervention to Support Student Teachers on School Placement

By

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BEd, MEd

A thesis submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy

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April 2017

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DECLARATION

This is to certify that the work I am submitting is my own and has not been submitted for another degree, either at University College Cork or elsewhere. All external references and sources are clearly acknowledged and identified within the contents. I have read and understood the regulations of University College Cork concerning plagiarism.

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ACKNOWLEDGEMENTS

I am extremely fortunate to have had such support, kindness, and guidance throughout this research study.

I am deeply indebted to my principal supervisor, Professor Kathy Hall, for her wonderful guidance and support throughout this research journey. Kathy, at a personal and professional level, your encouragement and motivation inspired me and provided me with the belief to see real value in my work. I will miss our conversations. I will be forever grateful. To my co-supervisor, Dr Brian Murphy, who brought a further layer of support and challenged my thinking with such enthusiasm and insight. Brian, thank you sincerely.

I am very fortunate to have such kind colleagues. A special word of thanks to Professor Catherine Furlong and Dr Margaret Leahy who have been so kind with their time throughout this research journey and provided me with invaluable advice. I also owe thanks to the following people for all their support, friendship and guidance: Dolores Corcoran, Maura Coulter, Therese Farrell, Helen Fleming, Fiona Giblin, Deirdre McMahon, Mark Morgan, Bernadette Ní Áingléis, Maura O'Connor, Vanessa Rutherford, John Smith, and Fionnuala Waldron.

A special word of thanks to the cooperating teachers and student teachers who engaged in this research with such enthusiasm and interest.

I thank my friends and family for all their support. To my parents, who are such an inspiration in my life, words cannot describe my appreciation for everything you have done for me.

To Aoife, my wife and best friend, who has shared this doctoral journey with me, and has always been there to provide encouragement and support. Thank you for your love, your kindness, your care, and your belief in me during this journey.

Finally, in memory of my Uncle Gerry, who instilled the value and importance of education in me. Gerry, thank you. For you, I dedicate this thesis.

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ABSTRACT

Initial teacher education in Ireland has experienced accelerated transformation in recent years, resulting in extended school placement periods on concurrent and consecutive programmes. A contributing factor towards this development can be linked with teacher education scholarship, which values the authentic learning experience that classroom sites offer in learning to teach. However, there is also recognition that the daily demands associated with the practice of teaching, alongside the tenacity of lay theories, can result in student teachers becoming overwhelmed during their practicum experience, and can challenge the approaches endorsed in their research-based teacher education. This research documents the design, implementation and evaluation of an online intervention. Entitled LÍNTE (Learning in Networks through Enquiry), the intervention sets out to support student teachers as they engage in a period of school placement. Translating as 'lines' in the Irish language, the overarching aim of LÍNTE is to provide a line of support where student teachers are afforded with the opportunity to interact with peers, cooperating teachers, and HEI tutors online. Furthermore, the intervention privileges constructivist learning, enquiry and knowledge generation, aligned with the practicum experience. Arising from a comprehensive literature review, the study employs key theoretical principles in facilitating reflection and enquiry online. The emphasis on student-led discourse, self-regulated learning and reflection and enquiry provide the backdrop for the design and facilitation of LÍNTE.

Guided by an action-oriented case study design, this study is qualitative in nature. Research methods include interviews, participant observation, and discourse analysis. Adopting a multi-layered approach to data analysis, key findings emerge that relate to (a) the importance of structured support in learning to teach and (b) the appropriateness and suitability of online environments in providing such support. Students value peer to peer interaction, alongside affirmation from tutors. Beyond merely seeking support, this research highlights that the employment of online hybrid spaces can provide a valuable learning context where knowledge of practice is generated. The nature of the dialogue in this space is reflective where students make their practice public. Furthermore, the alignment of an online hybrid space with the practicum experience affords the student teacher with the opportunity to use the classroom as a valuable learning site and enact 'inquiry as stance'. However, the research illustrates the importance of cultivating a 'safe' (online) space, through interactions which are empathetic and affirmative in nature. The synchronous element of this experience is highly valued by the students, particularly around the instant feedback and encouraging messages. The presence of cooperating teachers, as online tutors, as well as a HEI tutor is recognised as critically important for strengthening the overall learning experience.

A significant conclusion to this study is that supportive hybrid learning opportunities during the practicum experience can provide an appropriate context where students are encouraged and affirmed to persist with methodologies and approaches endorsed in their research-based teacher education. With careful design, the benefits of delivering professional learning opportunities at a distance is promising for teacher educators. To support this, this research concludes with suggested design principles.

GLOSSARY OF TERMS AND ABBREVIATIONS

Cooperating Teacher	A cooperating teacher is a teacher who facilitates the student teacher in his/her class during the school placement experience
Continuum of Teacher Education	This encompasses initial teacher education, induction, early and continuing professional development
Department of Education and Skills (DES)	The Department of Education and Skills is a department of the Irish state with responsibility for education and training. Formerly, the Department of Education and Science (DES) (1997-2010) and the Department of Education (1921-1997)
Droichead	*Droichead* is a new model of induction which is being piloted in a number of schools
Enquiry	Alternative (UK) spelling of *inquiry* (US). Both are used interchangeably throughout the study
Higher Education Institute (HEI)	Higher Education Institutions are public and private colleges, universities or other third level bodies who provide initial teacher education programmes
Induction	Induction is coordinated by the National Induction Programme for Teachers, and builds on initial teacher education. Within induction, newly qualified teachers undertake a probation element which is either signed-off by the DES Inspectorate (traditional route) or the Professional Support Team (PST) (*Droichead* route). The probationary period is commonly referred to as the 'dip' or 'diploma' in primary education. Historically, the DES issued the 'diploma' to newly qualified teachers on successful completion of induction requirements
Initial Teacher Education (ITE)	Also referred to as pre-service teacher education. In Ireland, primary initial teacher education takes place over a 4-year period for undergraduate (concurrent) students and over a 2-year period for postgraduate (consecutive) students
Information and Communications Technology (ICT)	Refers to technological tools and recourses that are used to communicate and create, share, and manage information

National Induction Programme for Teachers (NIPT)	The National Induction Programme for Teachers is a State-funded support service that co-ordinates induction for teachers
Newly Qualified Teacher (NQT)	In this study, a newly qualified teacher is a teacher who is beginning the induction phase in their career
Partnership	Partnership refers to the process and structures that enable partners involved in school placement to work collaboratively in facilitating school placement
Placement Tutor	A Placement Tutor is a person who works with a HEI to support and evaluate the work of student teachers on placement. Commonly referred to as 'supervising tutors', 'supervisors' or 'inspectors' by student teachers
Practicum	Part of coursework that consists of practical work in a field. The practicum element of initial teacher education is referred to as 'School Placement' in Ireland. In the USA, it is often referred as the 'Clinical Experience' or 'Field Experience'. In many countries, it is referred to as 'Teaching Practice' or 'Teaching Placement'
Principal	The principal is responsible to the Board of Management for the day-to-day management of the school, including the guidance and direction of teachers
School Placement	School Placement is the school-based/practicum element of initial teacher education in Ireland. It replaces the term 'Teaching Practice'. However, students still frequently refer to school placement as Teaching Practice or TP
Student Teacher	A student teacher is a student undertaking initial teacher education. In this study, student teachers are undertaking the 2-year Professional Master of Education Programme (Primary Education)
Teaching Council	The Teaching Council is the professional standards body for the teaching profession in Ireland and has responsibility for regulating professional standards, including accreditation, in teaching
Web 2.0.	Online technology which is characterised by interactivity and collaboration

CHAPTER ONE: INTRODUCTION TO THE STUDY

This research study explores the design, implementation, and evaluation of an online intervention to support student teachers as they engage in a school practicum. This chapter sets the scene for the research journey. First, the policy context is presented, where a focus is placed on the key developments and critiques that initial teacher education (ITE) has experienced, and thus has led to a redesign and restructure of ITE provision in Ireland. Second, this chapter introduces the local context (the research site). The ITE programmes and provision in my higher education institute (HEI) are discussed. Furthermore, the change and restructuring that has taken place during this research cycle in my HEI are documented. Arising from policy reform and developments in ITE, the rationale for research is discussed. This rationale is twofold. First, the policy rationale is presented and draws on existing policy documentation. Second, the professional and personal rationale draws on institutional and local practices, and the initial factors that led to this research journey are examined. Arising from the research problem, a justification for research is made and the aims and research questions are presented. Finally, the chapter concludes with an overview of how the thesis is structured and organised. To begin the study, I present a short biographical sketch, which focuses on my own personal and professional journey as an educator.

1.1. Personal and Professional Journey in Education

Since embarking on an undergraduate degree in primary education in 2003, I have always had a deep-rooted interest in education. My undergraduate experience was very positive, where the then three-year BEd degree challenged and opened my way of thinking. It allowed me to pursue new approaches and methods of teaching, that had been somewhat absent in my own experience of schooling. In 2006, I entered

the teacher profession with a confident and perhaps, naïve attitude, that I had acquired the knowledge to teach effectively. However, as I gained more experience, I soon began to see that teaching was a complex process and that on-going professional learning was important. In 2009, this realisation, alongside an appetite to engage in further studies, led me to embark on a Master of Education (MEd) programme in Trinity College Dublin. The emphasis on research, discussion, and debate in the first year of this programme further challenged my way of thinking and I soon began to see real value in collaborative dialogue pertaining to education. In addition to this, I was a research participant in an action-research project around collaborative practice. As a participant, I recognised the value of collaboration and how sharing practice can be a catalyst for learning. In the second year of my MEd programme, the national drive to improve ICT provision in schools, alongside my own interest in technology and learning, led me to set up on-site structured teacher professional development workshops around integrating ICT into teaching and learning in my school, and I conducted research around this process. Taking an action research methodology, this small-scale study illuminated the strengths, complexities and challenges that can emerge when engaging in research. In 2012, I moved into teacher education, where I worked as part of a team, specialising in the design and coordination of ITE school placements. In 2013, I was accepted to undertake a PhD in UCC. In 2016, towards the end of this research cycle, I took on the directorship of school placement on the primary initial teacher education programmes in my HEI. This has been an exciting and challenging phase in my career. However, my doctoral journey has provided me with the opportunity to develop a deep conceptual base in understanding the myriad complexities and challenges in teacher education. Furthermore, it has expanded my

knowledge around supporting students to address complexities as they engage in practice. The remainder of this dissertation will explain how.

1.2. The Policy Context: Initial Teacher Education Reform in Ireland

This section presents the policy context, in which this research takes place. It traces the challenges, and agenda for reform, pertaining to school placement and university-based initial teacher education. It draws on the key developments which has led to extended school placements on concurrent and consecutive initial teacher education programmes. Initial teacher education programmes became affiliated with the universities in the early seventies. This was regarded as a significant development for the profession and was widely welcomed in education circles (Coolahan, 1981). Teacher education would no longer be reduced to a two-year 'training' programme, heavily controlled and managed by the Department of Education. Coolahan (2007, p. 2) describes this decade (1965-1975) as "a period of major social, economic and cultural change in Ireland, when a vibrant national economy provided resources and motivation for significant reforms, not dissimilar to the period from the middle nineties to 2007". Although the introduction of a degree programme was welcomed, concerns were still raised around the new degree structure, particularly the requirement of the universities around non-education based academic subjects (Burke, 2000). Hence, an agenda for further development and reform remained. The eighties painted a bleaker picture for initial teacher education provision and reform in Ireland. Regarded by Coolahan (2007) as the 'period of retrenchment', political influences led to reductions in student and staff numbers and the closure of Carysfort College in 1987 caused feelings of uncertainty for the future of initial teacher education in Ireland. A review by the OECD in 1991 highlighted the need for sustainable long-term planning in teacher education. The reviewers were not shy in criticising the political actions

towards ITE during the eighties (Coolahan, 2007; OECD, 1991). The early nineties saw economic development and growth and a drive to create a 'knowledge society' in Ireland (Coolahan, 2007). However, Ireland's first Green Paper (Government of Ireland, 1991) proposed to drop the concurrent model of initial teacher education in favour of a consecutive model. Following a strong debate at a national convention in 1993, the White Paper on Education (Government of Ireland, 1995) indicated that the concurrent model of ITE would be retained. In 1999, the Minister of Education established a twenty-member Working Group to review primary pre-service (initial) teacher education in Ireland. This working group was chaired by Dr Thomas Kellaghan, the then director of the Education Research Centre, Drumcondra.

1.2.1. Preparing Teachers for the 21st Century: A Roadmap for ITE Reform

The Kellaghan Report, *Preparing Teachers for the 21st Century: Report of the Working Group on Primary Preservice Teacher Education,* was presented to the Minister of Education in 2001 and was published in 2002. The would become a key landmark policy document for teacher education reform in Ireland (Burke, 2009; Coolahan, 2007; Ní Áingléis, 2009). The Working Group raised significant concerns around the model of 'Teaching Practice' (the school-based element of Irish ITE):

- There was limited emphasis placed on integrating and applying coursework to practice;
- There was an over-preoccupation with assessing students' teaching skills and little attention paid to how students were integrating and applying elements of their coursework in practice;
- There was a perception that teaching practice was an 'artificial' and 'unreal' experience;

- Concerns were expressed around the heavy-use of external supervision. According to the Working Group, the use of external-contracting was limiting opportunities for debrief and reflection;
- There were concerns expressed around the unstructured system of partnerships between ITE providers and schools. ITE providers had no formal contracts with schools and had limited control over the choice of teachers that were working with students (Kellaghan, 2002).

The report of the Working Group (Kellaghan, 2002) identified 'many problems' with the 'teaching practice' element and signalled that major reform would be required in this element of ITE (Kellaghan, 2002, p. 121). Although the Working Group acknowledged that extending the duration of ITE programmes would address some of the issues raised in the report, they argued that this would not be the panacea to the myriad problems. The Working Group recommended that structured partnership models should be established where schools and teachers take a formal role in supporting student teachers. Furthermore, ITE institutions should provide appropriate mechanisms to support students to integrate and apply coursework to the school-based element. Although this was acknowledged as a major challenge, the Working Group (Kellaghan, 2002, p. 122) noted:

> The fundamental purpose of teaching practice should be to assist students in the integration, interpretation and application of the various elements of their preparation…and ideally this should involve close contact between supervisors, mentors, or teachers, advising, preparing and debriefing students individually or in groups.

The findings of the Working Group provided policy makers and ITE providers with a clear agenda for reform. However, reaction to the report of the Working Group was disappointing. There was no press release or launch, no national debate, and no Minister of Education made any comment on the findings in the report (Coolahan,

2007). However, the critique and problems associated with ITE, and in particular the school-based element, would not just pertain to this report.

1.2.2. A Critique of Initial Teacher Education

Between 2002 and 2005, the Inspectorate, an independent unit of the Department of Education Skills, conducted a range of national evaluations. In 2005, *Literacy and Numeracy in Disadvantaged Schools: Challenges for Teachers and Learners* noted that teacher professional development required 'significant improvement' (DES, 2005a). ITE preparation fell under this professional development umbrella:

> The majority of teachers interviewed stated that their initial teacher training and education did not prepare them for the challenge of teaching in a disadvantaged setting. This has particular significance, given that almost one-third of the teachers in the sample reviewed had three years' experience or less. (DES, 2005a, p. 61)

The Inspectorate recommended that support should be provided to students in initial teacher education around planning, teaching, learning, and assessment so that they are equipped to teach in disadvantaged contexts. In the same year, *Beginning to Teach: Newly Qualified Teachers in Irish Primary Schools*, another report published by the Inspectorate, noted that newly qualified teachers felt that they were under-prepared from their ITE programmes in teaching music, drama, and visual arts; in planning for differentiation; in classroom organisation and management; and in writing monthly progress reports. Concerns were also raised about the teaching of literacy (DES, 2005b). Furthermore, the Inspectorate noted that newly qualified teachers displayed inadequate experience in planning learning objectives, in employing a range of methodologies, in structuring and in pacing lessons, in using assessment strategies, and in displaying classroom awareness. The report indicated that ITE providers would need to take account of these findings. *Learning to Teach: Students on Teaching Practice in Irish Primary Schools* was published following a structured review of

teaching practice by the Inspectorate (DES, 2006). The then Chief Inspector, Eamonn Stack, noted that the findings of this evaluation report should contribute to and inform policy development in ITE. The findings and recommendations were similar to those in the two previously discussed evaluations (see DES 2005a, 2005b). ITE institutions should ensure that students cater for differentiation in planning and teaching and have a range of methodologies and organisational approaches in teaching. Supports and exemplars around good practice in assessment and in learning should be made available for students. The existing model of teaching practice perpetuated a culture of isolation. The sustainability of 'good-will' culture that permeated school-university partnerships was questioned and it was highlighted that placement allocation was a "logistically daunting task" for ITE providers (DES, 2006, p. 38), The report highlighted the need for a strategic reform plan for "this vital sector in education" (DES, 2006, p. 39).

A key report from the OECD in 2005, entitled *Teachers Matter: Attracting, Developing and Retaining Effective Teachers*, raised issues around teacher preparation, recruitment, work, and career status. The report recognised the value of the practical element of ITE and regarded it as "an essential element to teacher preparation in order to help future teachers understand the dynamics of classroom teaching and the principles underlying it, helping to spare beginning teachers a reality shock" (OECD, 2005, p. 108). However, the report noted problems in this component of ITE provision:

- Practical experiences were generally short and disconnected from coursework;
- The experience in schools was often limited to a 'narrow classroom experience' and therefore students were limited in experiencing the full range of teachers' professional tasks;

- Schools were limited in supporting extended periods of practical experience and struggled to cope with the demands of the ITE providers;
- There was limited training and communication between the ITE and teachers, resulting in conflicting expectations for students.

1.2.3. The Establishment of the Teaching Council: A Key Player in ITE Reform

The establishment of the Teaching Council in 2006, as a statutory body, would mark a new direction in teacher education reform. According to Lawlor (2009, p. 10), the vision of the Teaching Council was to be "at the heart of teaching and learning, supporting and regulating the teaching profession". In relation to initial teacher education, the Teaching Council would work in accordance with Teaching Council Act (Section 38), 2001, where it would (1) establish best practice across the continuum and (2) review and accredit ITE programmes in Ireland. This approach to accreditation would be unique and distinguish it from the existing academic accreditation processes conducted by the universities (Lawlor, 2009). ITE institutions would be required to meet the Council's accreditation criteria so that graduates would be recognised by the Teaching Council and would be eligible for registration. To formulate a strategy for review and accreditation, the Council engaged in consultation sessions with various partners with interest in initial teacher education. According to Lawlor (2009), these sessions were well attended and the Council received substantial feedback. The Council also drew on earlier published reviews, namely the Kelleghan Report, *Preparing Teachers for the 21st Century (*2002), the Byrne Report, *Advisory Group on Post-Primary Teacher Education* (2002), and the OECD report, *Teachers Matter* (2005). These reports would also inform the Council's strategy for accreditation of ITE programmes (Lawlor, 2009). The Council noted that they would draw on a background paper, prepared by Professor John Coolahan, Emeritus Professor of

Education at NUI Maynooth, which specifically reviewed the thinking and policy around teacher education. In his paper, Coolahan (2007, p. 36) was critical of the lack of political attention that teacher education had received in Ireland: "What has been absent to date has been an overall cohesive agency to co-ordinate multi-faceted action, and the lack of a political will to take the necessary action. Furthermore, teacher education has continuously suffered from inadequate resourcing". However, Coolahan (2007) suggested that sufficient work had been undertaken in teacher education policy and research, and the Council had now a clear pathway for reform and action. Alongside this background paper by Coolahan (2007), the Council also drew on a research which reviewed (1) research and literature in relation to teacher education and (2) teacher education policy in nine countries: Ireland, Northern Ireland, Scotland, England, Finland, USA, Poland, Singapore and New Zealand (Conway, Murphy, Rath & Hall, 2009). Conway et al. (2009) noted: learning to teach should not just be based around classroom preparation; students should engage in experiences associated with the professional role of teaching e.g. provide a space where students can engage in professional learning communities; learning to teach should be conceptualised as an 'assisted practice' rather than a 'solo practice'; structured school-based experiences are important, where professional conversations and dialogue should permeate experience; programmes should allow students to be able to make connections between their coursework and classroom/school-based practice; and reflection and enquiry should be at the core of the learning experience in coursework and in the school experience.

A draft policy and background paper around the continuum of teacher education was published in 2010. The Council acknowledged that teachers were now faced with new challenges in classrooms due to inclusion, diverse society, and the emergence of

new technologies. The paper highlighted the importance of reflective practice and enquiry in ITE (Teaching Council, 2010). The paper referred to the 'School Placement' element, signalling that 'Teaching Practice' would no longer be the term to describe the practical element of ITE in Ireland. Placement would also be incorporated throughout the entire programme and student teachers in primary ITE would be required to spend at least 18 weeks teaching (Teaching Council, 2010). Following a series of consultation sessions around this background paper, the *Policy on the Continuum of Teacher Education* was published in 2011. Themes of this policy included the "emergence of new knowledge, understandings and insights into curriculum, pedagogy, assessment and teacher learning, together with the accelerating pace of societal, legislative and educational reform and the increasingly complex role of teachers" (Teaching Council, 2011a, p. 7). The Council identified the three 'I's of the continuum of teacher education – initial teacher education, induction and in-career development. Furthermore, the Council indicated that there would be another set of three 'I's' that would underpin the three stages of the continuum, namely innovation, integration and improvement. The policy set out guiding principles for initial teacher education provision:

- Student teachers' knowledge for practice, knowledge of practice, and knowledge in practice should be developed;
- Opportunities should be provided to student teachers where they can reflect critically on their practice;
- Students should be encouraged to challenge their attitudes and beliefs about teaching and learning;
- To cope with the demands of teaching and learning in the 21st century classroom, students need to be adequately prepared;

- Opportunities should be provided where students can learn about the professional role and responsibilities of teaching;
- School placement should provide valuable learning opportunities for student teachers' learning, and student teachers should be provided with opportunities to engage in professional learning communities;
- Structured support should permeate the school-based learning experience where student teachers are mentored, supervised and have space to critically analyse their experience;
- The extension of school placement should allow students with space to engage in reflective and enquiry-oriented activities.

This policy set a clear timeline for the redesign of concurrent and consecutive ITE programmes, where concurrent (undergraduate) programmes would be introduced no later than 2012/2013 academic and consecutive (postgraduate) programmes would be introduced no later than 2014/2015 academic year. This policy guided the development of *Initial Teacher Education: Guidelines and Criteria for Programme Providers* (Teaching Council, 2011b). Concurrent ITE would be extended to 4-year programmes and consecutive ITE would be extended to 2-year programmes. School placement was to be extended to 30 weeks on the concurrent programme and 24 weeks on the consecutive programme. A 10-week placement would be expected to take place in one school year (Teaching Council, 2011b). Other expectations were as follows: student teachers would have the opportunity to collaborate with peers and engage in critical analysis and enquiry-based learning during placement; schools would take more structured roles in the support for student teachers, where a whole school approach would be devoted to this process; and de-briefing and reflection in a

collective environment would take place immediately after the placement ends (Teaching Council, 2011b).

Guidelines on School Placement (Teaching Council, 2013a) further expand on the details pertaining to the revised structure of school placement. The formulation of these guidelines came about when the Council invited stakeholders from ITE institutions, the Department of Education and Skills, and the teacher unions to participate in a working group. The purpose of this group was to provide a roadmap document for all partners involved in the school placement experience (Teaching Council, 2013a). The guidelines characterise effective school placements as those grounded in open, respectful relationships where clear and open communication between all partners is essential. The guidelines further note:

> Teaching is a self-regulating profession and, therefore, the development of school placement is based on the premise that the teaching profession is committed to engaging in the process of teacher education, in partnership with the HEIs. Teachers and schools should be appropriately supported by all education partners to fulfil expectations in that regard. (Teaching Council, 2013a, p. 10)

It is also noted that HEIs should provide additional learning activities that are linked to the placement experience including reflection workshops following placement, online discussion fora, and the use of reflective journals. These guidelines would support the Council in the future accreditation of ITE programmes.

1.2.4. Other Influences on ITE Reform

In July 2011, the then Minister for Education and Skills, Ruairí Quinn, TD, launched the *Literacy and Numeracy for Learning and Life* (Government of Ireland, 2011). A decline in the 2009 PISA rankings and findings in the National Assessments of Mathematics and English Reading (NAMER) signalled no improvement in literacy levels of children in Irish primary schools for over thirty years (Eivers et al., 2010). Furthermore, the reporting of a substantial proportion of unsatisfactory English

lessons by the DES Inspectorate in their report *The Incidental Inspection Findings Report* (DES, 2010), highlighted the concern around falling standards in literacy and numeracy in Ireland. In the foreword, it was argued that these findings signalled that students' literacy and numeracy skills were not being appropriately developed in Irish schools and hence, there was a need for action (DES, 2011). Furthermore, the actions and targets set in this strategy would have to be achieved by using existing human and financial resources, due to the economic downturn and curtailed public expenditure agenda in Ireland. This strategy played a key role in the changes to ITE consecutive and concurrent programme. The strategy was critical of ITE provision: "We can provide better initial and continuing professional development… we have to improve the quality and relevance of initial teacher education" (DES 2011, pp 30-32). The strategy complimented the 'valuable work' of the Teaching Council in developing their policy on the continuum of teacher education. It signalled that the Teaching Council would play a key role in improving the quality of teaching overall and in the areas of literacy and numeracy and noted that the DES would also take an active partnership in the development, integration and improvement of teacher education. The strategy stipulated that the re-configured ITE courses would "produce reflective practitioners capable of enquiry-based learning and ongoing engagement with research and emerging practice in the fields of literacy and numeracy acquisition" (DES, 2011, p. 34).

In 2012, the Department of Education and Skills established an international review panel to examine the existing structures of initial teacher education provision and identify new structures so that the quality of teacher education would be improved. Áine Hyland, Emeritus Professor of Education, University College Cork, prepared a background paper for the panel. In this background paper, Hyland (2012)

recommended that the content of initial teacher education programmes should not fall under this review, as this had been previously addressed by the Teaching Council. The Review Panel commented on various aspect of ITE provision and supply. According to the Review Panel (DES, 2012), there was a lack of understanding in relation to research-based teacher education in Ireland. The Review Panel (DES, 2012) recommended:

> …a culture of research in teacher education where staff are familiar with current research and engaged in research on critical areas of teaching and teacher education: their own practice; teachers' professional learning; Irish and international education policy, and the fundamentals of teaching, learning and assessment". (DES, 2012, p. 21)

Opportunities should also be provided to student teachers to engage in research around their own practice, reflect on practice, and use this process to reconfigure and improve their teaching. The Review Group (DES, 2012) noted that the existing ITE providers in Ireland were operating at a small-scale level. It was suggested that ITE providers (schools, departments, and colleges of education) should amalgamate based on the nature of the ITE provision (early childhood, primary, post-primary, and further education). The Review Panel (DES, 2012) argued that this amalgamation process would afford students with the opportunity to engage in cross discipline studies and in programmes that span the continuum of education. The merging of current providers would also provide a 'critical mass' in these new institutes of education which would have a positive impact on the range of expertise, research and teaching (DES, 2012).

The Teaching Council's policy agenda, since initial teacher education reform, has been met with barriers and challenges, and this has impacted the implementation of the revised ITE programmes, particularly around the school placement experience. First, the Teaching Council have begun a pilot on school-based induction, entitled Droichead. The approach emphasises school-based mentoring. According to the

Teaching Council (2016a), experienced teaching staff in the school are best positioned to mentor and support the teacher due to their in-depth knowledge of the school. Such personnel work as part of the PST (Professional Support Team), which can also include an external member. At the end of this process, the form is signed by the PST team. Prior to this, the DES inspectorate was responsible for evaluating the work of newly qualified teachers, which had to be deemed satisfactory to complete the induction phase. However, this approach to mentoring has not been enacted in all schools and has been met with opposition. "Principals and teachers have raised many questions in relation to Droichead proposals including, among others, funding and resourcing of the scheme" (INTO, 2016, p. 17). In terms of the impact that this has on ITE provision, particularly school placement, schools were met with the redesign of school placement, in which principals and teachers noted that this would be more challenging for schools to facilitate placements (INTO, 2016). Coupled with ITE providers' heavier reliance and dependence on schools, both initial and induction policy draw heavily on school-based mentoring and feedback in their conceptual models. In a time where the effect of the economic downturn has directly impacted teachers' and principals' salary and conditions, many equate such responsibilities as further layers of work (INTO, 2016; Martin, 2011).

In line with the Council's policy on the continuum of teacher education (Teaching Council, 2011a), the policy around career professional development is still in its phase of development. A draft of the career professional development framework, entitled *Cosán*, was published in 2016 (Teaching Council, 2016b). However, the Council is engaging in a consultative process until 2020. This framework values reciprocal professional development, and cites mentoring and support as a tenet of this. However, the emphasis on formalising the roles of schools

and teachers in facilitating school placement is absent. Furthermore, the recent version of *Looking at our Schools* (DES, 2016), which will be used as a framework for guiding future internal and external evaluation, values (a) collaborative practice and (b) teachers disseminating their knowledge to others. Disappointingly, it does not exclusively highlight collaboration and dissemination knowledge and guidance to student teachers. As a statement of highly effective practice, the publication notes: "Teachers share their expertise with teachers from other schools, for example through education centres, online forums, and school visits" (DES, 2016, p. 21). Recent policy documentation fails to acknowledge the partnership roles between schools and HEIs that have been espoused in the Council's guidelines on school placement (Teaching Council, 2013a). Therefore, school placement continues to depend upon the good-will of schools despite concerns about the sustainability of such raised over a decade ago (Kelleghan, 2002; DES, 2006).

1.3. The Local Context: ITE in DCU Institute of Education

Revisiting the work of the Review Panel (DES, 2012), the recommendations from this report has led to a major institutional change. The research study began, including the field research, in the then St Patrick's College. However, this institution was no longer in existence at the end of this research. The Review Panel (DES, 2012) recommended that Dublin City University, St Patrick's College, Drumcondra and Mater Dei Institute of Education should form one centre of teacher education. The report noted that continuum of teacher education would be catered for in this arrangement. With the recent infrastructural developments in St Patrick's College, it was argued that the campus would have the potential to host a strong teacher education base. The geographical positioning of the three institutions would be well-positioned to accommodate this process (DES, 2012). In 2014, the then Minister of Education,

Ruairí Quinn TD, launched the report *A New Vision of Education for all Children of Ireland* (DCU, 2014). The report outlined the strategy for the incorporation of St Patrick's College, Mater Dei Institute, Dublin City University, and Church of Ireland College of Education. With the recent introduction of an undergraduate degree in Early Childhood Education at St Patrick's College, Drumcondra, the report highlighted that this development would create the largest critical mass of education expertise in Ireland and provide ITE and CPD programmes for teachers and educators across the continuum. The new DCU Institute of Education came into effect in October 2016. All ITE provision primarily take places in the DCU Institute of Education (the fifth faculty of DCU), at St Patrick's Campus (formerly the location of St Patrick's College, Drumcondra).

Prior to incorporation, St Patrick's College, Drumcondra, had engaged in initial provision since 1875. With the recent incorporation, discussed above, this has not changed. As alluded to previously, it provides a range of education programmes, including early childhood and initial teacher education (primary), as well as in-service and CDP programmes from certificate to doctoral level. In relation to ITE, the concurrent Bachelor of Education (BEd) programme and the consecutive Professional Masters in Education (PME) programme are designed to help students become skilled professionals, who will have the ability as newly qualified teachers to deal with the ever-changing primary school environment (SPD, 2012a). The concurrent and consecutive initial teacher education programmes are mainly delivered through tutorials, lectures, seminars and workshops. Features of the two programmes include subject specialisms, Gaeltacht placements and periods of school placement. Furthermore, the two programmes are subject to the professional accreditation process by the Teaching Council and guided by the criteria of the Teaching Council (2011b).

The Teaching Council has accredited both programmes, the BEd in 2013 and the PME in 2014. The accreditation reports have commended the emphasis on critical enquiry and reflective practice and the pedagogical and epistemological principles underpinning the programmes (Teaching Council, 2013b, 2014). The central component of school placement on both programmes is to provide student teachers with the opportunity to develop professional knowledge and dispositions "through the practice of and reflection-on teaching, and through developmental, iterative interrogation of theory, practice and self" (SPD, 2012b, p. 30). School placement is underpinned by the Vygotskian nature of developmental learning (SPD, 2012b), where the student teacher engages in a process of reflecting on lessons taught in dialogue with the cooperating teacher and tutor. "This process enables the student to critically self-evaluate and deconstruct his/her assumptions about children's learning and to reconfigure them in light of what he/she has learned" (SPD, 2012b, p. 31). School placement is structured and graduated in terms of teaching expectations and assessment on each placement. This developmental approach provides the student with the opportunity to receive appropriate scaffolding and support in relation to learning to teach on school placement (SPD, 2012b).

1.3.1 Teacher Professional Development Partnership with Schools Project

In 2005, St Patrick's College began a longitudinal research project. The impetus for the development of this project was in line with the strategic planning of the College in developing partnerships with schools (SPD, 1999; SPD, 2006). In 2005, the Teacher Professional Development Partnership with Schools Project (TPDPSP) was implemented. The project set out to explore how schools could be more 'systematically' involved in the school-based experience, how school-based mentoring approaches could be developed, and how a 'curriculum' of partnership with

schools could be established (Ní Áingléis, 2009). Over a five-year period, developments in the project led to: the facilitation of professional development seminars for principals, teachers and student teachers around observation, feedback and reporting; the development of a whole school approach to facilitating the ITE school-based experience; the design of partnership materials for schools; and school site-based work where members of the project team (HEI tutors) would visit partnership schools and would support principals and teachers in facilitating a whole-school approach to school placement. An evaluation report on the project was published and launched in 2011 (Hall, 2011; Martin 2011). In the evaluation report, Martin (2011) noted that this partnership project represented a collaborative initiative that has "resulted in a professional discourse and shared action that have created an exciting and ground breaking initiative in teacher education provision" (p. 49). The findings of the evaluation and timeliness of the project fell in line with the Council's emphasis on partnerships with schools in the newly extended ITE programmes (Teaching Council, 2011a, 2011b).

1.4. LÍNTE: Initial Considerations and Developments

In 2013, I began exploring various possibilities and approaches in providing online support to student teachers on school placement. In moving the idea of online support forward, several consultative meetings occurred with various senior members within the Education Department, including the Dean of Education, the Director of Teaching Practice, the Director of the Bachelor of Education Programme, and the Director of the Professional Masters in Education Programme. An exploration of approaches to supporting student teachers during the extended placements permeated the discussion. Throughout the consultative meetings, several issues were raised. At the time, the online virtual learning environment (VLE) platform (entitled Loop) was

undergoing an upgrade and professional development and training in using Loop for all staff in the HEI was on-going. In discussions with the coordinator of EOLAS (Enhancing Online Learning and Support), a joint decision was made that the development of a custom-built programme for online support would not be practical or necessary. We came to the decision that the existing online virtual learning environments and Web 2.0 resources associated with Loop, namely Moodle and Adobe Classroom, could be utilised in the design. Students were also familiar with the platform. Furthermore, a learning technologist was available on campus and usability, pedagogical and infrastructural supports could be provided around with these platforms.

I wanted to give the online community a title so that it would be distinct and recognisable to all in the HEI, including students, staff, and placement tutors. In reading the conceptual framework underpinning the ITE programmes in my HEI, alongside familiarisation with literature in teacher education, it was important that teacher enquiry would be at the centre of this online community. I created the term LÍNTE which translates as 'lines' in the Irish language. In relation to this project, this would also relate to; a line of communication (using the online community to communicate with peers and tutors); a networking line or link (a support network, an online network, a network to link learning in the school with the learning endorsed in the HEI; and a line of support (an online community which emphasises a spirit of support and help). I also proposed to use the title LÍNTE, as an acronym, to identify the central aim of this research study - Learning in Networks through Enquiry. Cornu (2004, p. 41) describes networks as those "made of people and information; linking people with people, people with information, information with information". Networks provide a platform for collective intelligence where members can access

knowledge and resources, which may in turn enhance the collective capacity and competence of the participants of such networks. Teacher education should establish professional collective practices in a networked society:

> Teacher education has to take this into account, both in the content and in the methods of teacher education. Methods are important in teacher education: teachers tend not to act in the way they are told, but to reproduce, more or less consciously, the way they are taught and trained. Therefore, we do not only need courses about collective abilities and collective intelligences but we need collective activities in teacher education. Developing a collective intelligence for teachers is a new task for teacher training institutions. (Cornu, 2004, p. 44)

Building on the previous partnership project with schools, I felt that it was important to capture the research and work that had been done to date. Therefore, it was decided that teachers who had been involved in a professional development partnership project with schools would take an active part in this intervention.

1.5. The Research Problem

The redesign of initial teacher education programmes has enabled teacher educators to reconceptualise their approaches and deliver programmes that capture teacher education scholarship (Teaching Council, 2011a, 2011b, 2013a). Despite this, challenges and barriers remain to be addressed. With the extension of school placement programmes on the concurrent and consecutive models, student teachers are undertaking extended school placement periods in schools across Ireland. As noted in the research by Conway et al. (2009), the learning to teach experience should be promoted as an 'assisted practice' where student teachers can engage in professional conversations and dialogue during the school based-experience. However, student teachers embark on extended school placements where schools remain unclear around the roles defined in the Council's guidelines (see DES, 2016; Teaching Council, 2013a, 2016) or do not have the capacity or resources to provide a whole school approach to mentoring student teachers (INTO, 2016; Martin, 2011). From my own

professional experience in my HEI, opportunities are restricted as schools are met with other CPD demands. Furthermore, school placement leans on schools nationwide, and thus providing CPD nationally is untenable due to staffing, time, and other HEI/school commitments. Furthermore, the Council (2011a, 2011b) stipulates that HEIs should provide opportunities for students to engage in reflective practice and enquiry during their initial teacher education. Therefore, mechanisms and structures would need to be provided to provide students with (a) support and mentoring and (b) a space to critically reflect on practice and engage in dialogue with peers, teachers, and teacher educators. Guidelines on School Placement (2013a) signal that online discussion fora should be a feature of school placement. What is unclear in these guidelines is how the online forum should be facilitated, what should underpin the learning and why, and what resources are needed to facilitate this experience.

1.6. Aim of the Research and Research Questions

In attempting to address the above problems, this research focused on the design, implementation and evaluation of an online 'learning to teach' intervention, entitled LÍNTE, which set out to support student teachers as they engaged in a period of school placement. The research questions that were explored in this study were as follows:

1. What were the theoretical principles that underpinned the development of the intervention and how were they incorporated into the design of the intervention?
2. How did the student teachers view and respond to the intervention?
3. What were the main issues and concerns of the students as they engaged in the intervention?
4. What features of this online intervention promoted students' knowledge of and for practice?

5. How did interpersonal relationships and dynamics influence the learning process and outcomes in the intervention?

In addressing Research Question 1, the forthcoming chapters (Chapters Two, Three and Four) explore existing literature and theoretical frameworks pertaining to online learning and teacher education. Arising from this, commonalities are identified and principles are delineated in Chapter Four. Research Questions 2, 3, and 4 are explored at a later point in the empirical element of the study. In justifying the methodological approach for the research, these questions will be re-examined in Chapter Five.

1.7. Potential Significance of this Study

As school placement in Ireland is undergoing on-going research, this study set out to make a contribution in to explore effective approaches that would provide support to student teachers during school placement. With the ongoing developments in technology and Web 2.0 (Mason & Rennie, 2008), the nature of this programme would be subject to design and review. Innovation, design and review are central to the role of all ITE programmes (Teaching Council, 2011a, 2013a). Hence, this research set out with the intention to contribute to the literature and theory around teacher education and school placement, around online and distance learning in teacher education, and around emerging models of reflection and enquiry in teacher education.

1.8. Conclusion

This chapter has set the backdrop for the research. A biographical sketch was presented at the outset, wherein my prior experience and interest in education was made apparent. The chapter then highlighted and traced the policy developments in ITE in Ireland. Political, economic and societal influences have played a major part in this reform agenda. Furthermore, it continues to impact the implementation of the

redesigned ITE programmes. Arising from this, the justification and rationale for research was presented, and the central aims of the research were discussed.

Chapter Two deals with the developments in distance education and how technology has influenced such developments. The developments in online learning within the teacher education arena are examined, with a focus on the practicum element of pre-service teacher education. Chapter Three examines challenges that student teachers experience in learning to teach. This chapter explores seminal theoretical frameworks which expand teachers' professional learning. Building on the policy rationale in Chapter One and the review of literature in Chapters Two and Three, Chapter Four presents theoretical design principles capture key concepts in the online pedagogy and teacher education literature. These theoretical principles guide the design of the intervention. Pedagogical approaches, learning outcomes, and recourse considerations are also discussed. It is recommended that Chapters Two, Three, and Four are read together.

Chapter Five presents the methodological orientation of the study, a qualitative research approach. The rationale and justification for the research approach and data collection instruments are discussed alongside the procedures for data analysis, sampling, maintaining trustworthiness and rigour, and adhering to ethical protocols in conducting the research.

Chapters Six and Seven presents the research findings. The initial findings chapter focuses on perceptions of the intervention, particularly drawing on student teachers' experiences. Chapter Seven presents the issues that students raised and exclusively highlights how the sharing of positive elements, issues, and problems in practice provided opportunities for new learning and knowledge generation. Chapter Eight concludes the study with a succinct review of the key research findings. Arising

from the online and teacher education theoretical frameworks, and the presentation and interpretation of the empirical findings, future design principles are proffered around the development of online hybrid learning spaces that are aligned with the school placement experience. The study then presents implications for future research, policy, and teacher education. The overall limitations of the research are also addressed. As this study began with a personal biography, I feel it is appropriate to conclude with a personal reflection, based on my experience of engaging in this research.

CHAPTER TWO: ONLINE LEARNING AND PEDAGOGY

This chapter is the initial chapter in the literature review section of this study and focuses exclusively on online teaching and learning. Online learning has experienced exponential growth in recent decades. Scholars in the field have emphasised the importance and value in recognising credible theories and principles regarding all aspects of online learning and teaching (Arbaugh, 2007; Garrison & Arbaugh, 2007). First, the chapter deals with the developments in distance education and how technology has influenced such developments. This section illustrates the key advancements in this field which have led to distance learning gaining increased recognition in teaching and learning. The focus on such developments sets out to illustrate that distance learning has not just been enhanced by the Internet and Web 2.0., but additionally, has been advanced and influenced by theory developments in (a) this field and (b) wider education, particularly social constructivist learning theories. Building on this discussion, the developments in online learning within the teacher education arena are examined, with a focus on the practicum element of pre-service teacher education. Finally, in designing online learning experiences, Shea and Bidjerano (2009) argue that educators encounter challenges in making relationships between technology and pedagogy. Such challenges include difficulties in the integration of technologies into online learning environments. To address this, this chapter explores the 'Community of Inquiry' (CoI) theoretical framework. The rationale for selecting this framework is twofold. First, this framework identifies effective online pedagogical approaches. Second, there is an emphasis on effective elements of online teaching and learning, namely establishing and maintaining teaching presence, social presence, and cognitive presence. The description of each, alongside their inter-relationship, provides the online educator to carefully address the

key components of online teaching and learning. The chapter concludes with a presentation of the key findings that have emerged from the review of the literature and how these findings will lend itself to the design of LÍNTE.

2.1. Exploring the Historical Developments in Distance Education

As alluded to in the preceding section, the importance of tracing the historical developments in distance education is twofold. First, it maps how practice has evolved and emerged in this field, particularly in the past four decades. Second, it illustrates how online learning has been informed by theories of learning, particularly constructivist and sociocultural learning. Keegan (1996) argues that the history of distance education can be traced back to 150 years ago where the industrial revolution brought out developments in technology, especially in transportation and communication. According to Peters (1993) and Keegan (1996), there have been significant improvements in distance education due to technological advancements. "The generation from 1970 to 2000 is witnessing a development of the whole field of distance education which parallel the success and achievements of the Open University. There has been a remarkable change in the quality, quantity, the status and the influence of distance education providers" (Keegan, 1996, p. 3). The development of new technologies has resulted in new relationship between teaching and learning, where participants can interact and collaborate in online environments (Birochi & Pozzebon, 2011). Technology-mediated education has enhanced teaching and learning though communication resources resulting in the notion of distance becoming increasingly unimportant in relation to distance education (Garrison, 2000). Due to technological and online advancements, there is limited validity in the arguments pertaining to the 'geographical' division or the space factor in distance learning. Issues relating to online teaching and learning in distance education are more pertinent, and

how to best to facilitate meaningful learning opportunities for students learning at a distance. The change from the industrial era to the post-industrial era has played a major part in the transformation of distance learning. In locating this transition within a timeline, it is difficult to identify when this transition occurred (Garrison, 2000). For example, Bell (1973) maintains that this transition occurred during the 1960s and 1970s. However, Peters (1993, p. 40) recognises that there has been a shift in certain principles associated with the industrial era, but questions if such changes are "signs of a new era which might be called postindustrial". Garrison (2000, p. 1) argues: "The 21st century represents the postindustrial era where transactional issues (i.e., teaching and learning) will predominate over structural constraints (i.e., geographical distance)". In addition, Taylor (2001) points out that the rapid advancement in digital technologies and advancements in the Internet have driven organisations to become more flexible and fluid in their practices. In tracing distance education developments, Taylor (2001) notes that distance education has moved through five generations: the Correspondence Model which was based on print productions; the Multimedia Model which was based on print, audio, and video technologies; the Telecommunication Model which involved synchronous communication; the Flexible Learning Model which involved universities employing online approaches via the Internet; and the Intelligent Flexible Learning Model which involves the use of computer mediated communications and online accesses to resources. To comprehend the arguments around the transition from the industrial to post-industrial era, it might be helpful to explore the characteristics of each, and how it has influenced distance learning.

2.1.1. Distance Education and the Industrial Era

Up to the 1950s, society was preoccupied with production, where manufacturing modes of production played a central role. Hierarchical bureaucratic management styles existed within administration and management:

> The notion of distance education, created in the context of industrial society, was first associated with the traditional practices of distance education by "correspondence". Correspondence distance education introduced new modus operandi which enabled large-scale reproduction of classic classroom practices of teaching and learning. As a repercussion of this phenomenon, a new model of distance education emerged, having the core premise of creating economies of scale through massively scaled standardization of production and distribution processes of education. (Birochi & Pozzebon, 2011, p. 564)

The industrial era was preoccupied with rationalisation where the means and purposes of achieving maximum outputs through low inputs of time, resources (human and capital), and power was emphasised. According to Peters (1993), universities engaged in the mass-production of teaching materials and resources and delivered these initially through print, and then through the use of film, television, and audio recording. The increase in the use of such resources meant that institutions could reduce human capital as mass-produced teaching materials were distributed to large cohorts, who engaged in studying these materials in isolation (Peters, 1993). The design and facilitation of such courses was divided amongst different levels of staffing within the university. For examples, course could be conceptualised and designed by specialised academics. Following this process, specialist academics would no longer be involved in the course delivery. Academics in the 'middle tier' would be engaged in planning the teaching process. The responsibility for the correction and assessment of students' work could then be passed onto postgraduate students (Peters, 1993).

2.1.2. Distance Education in the Post-Industrial Era

The shift from industrial era to post-industrial era noted new trends and changes an increase in labour within the tertiary/services sector, the emergence of new

technologies, and change in decision making in the economy (Birochi & Pozzebon, 2011; Peters, 1993). Employment has risen in the services sector, which has meant that the industrial sector is no longer the leading sector in driving economic development and growth. The growth in financial, education, health, legal, and domestic and entertainment services has resulted in a demand for key qualified personnel. To maximise such opportunities, there has been an emphasis on continuous education and professional development to effectively drive such changes (Peters, 1993). In addition, developments in 'new technology' (the computer and communication systems) have also had an impact on work and productivity. For example, the introduction of the personal computer has created flexible working opportunities for employees in the home.

In responses to this demand, universities have diversified their programmes. Students no longer engage in higher education for hierarchical positioning within organisations. Students engage in a wide range of studies to acquire social and cultural satisfaction. In addition, the nature of distance education, particularly part-time study options, should be made desirable and flexible to the student where the student is afforded the opportunity to integrate distance learning into working life (Peters, 1993). Students have begun to display more autonomy in what they are learning and what they want to learn. Pedagogical approaches have also developed from cognitive-behaviourist pedagogies to social-constructivist pedagogies within the distance education field (Garrison, 2000). The university can no longer solely impress students on their past achievements and academic standings. Institutions have had to place greater emphasis on the needs of the student, on the facilitation of meaningful learning activities, and the establishment of clear transparent communication between the university and the student. In terms of teaching and learning, Peters (1993) notes that

self-study should be complemented with social learning. The impact of technology, as Taylor (2001) previously noted, has been recognised as a key development in distance education where technology can enable learning to take place in the home and can still facilitate opportunities for the acquisition of information and learning within social contexts. "Distance education methodologies have come into prominence during the last decades of the 20th century. The confluence of the need for continuous learning and unprecedented technological innovation in communications has pushed distance education approaches to the forefront of educational practice" (Garrison, 2000, p. 1).

2.1.3. The Development of Theoretical Frameworks in Distance Education

Since the 1970s, there has been a plethora of research which has focused on theory development around distance education (Birochi & Pozzebon, 2011). Prior to information and communication technologies permeating the distance education field, there was a quest for theoretical frameworks that went "beyond the boundaries of distance education towards the domains of philosophy and sociology" (Birochi & Pozzebon, 2011, p. 562). Keegan (1996, p. 13) notes: "Academic research in distance education reached a new level of maturity compatible with the emergence of a new field within education by the early 1970s". In recent decades where distance education has become more influenced with technological and digital learning, researchers are still influenced by such scholarly discussion and academic literature in relation to distance education (Birochi & Pozzebon, 2011). In terms of gaining a broad understanding of the theoretical developments in distance learning, the work of two seminal theorists are reviewed. Although both authors presented their theories of effective distance of learning before the technological and online advancements of the past two decades, their work remains to be highly relevant and capture effective approaches towards distance learning.

The first theory focuses on 'communication', posited by Holmberg (1995). In theorising communication, Holmberg (1995) identifies two kinds of communication that occurs between participants in distance education. First, there is the traditional 'one-way traffic' approach in communication. For example, course materials are distributed to learners. Following this, the learner engages in texts and pre-recorded materials in an independent session. Second, there is the two-way traffic model. This relates to a two-way communication process between the student and the teacher. This is facilitated through various mediums of communication, including technology (Holmberg, 1995). When clear communication pathways are offered to student, issues around geographical and physical separation should not present a problem as a line of communication is available that can allow for conversation between the student and the teacher to occur. In communication, Holmberg (1995) proposes that the teacher needs to be interpersonal and empathic in his or her communication with students. "Empathy is usually taken to mean the power of projecting oneself into and understandings someone else's thinking and feeling. A certain amount of empathy in relation to students' work and situation is in my view required of all distance educators (Holmberg, 1995, p. 336)". Furthermore, Holmberg (1995) argues the teacher needs to plan opportunities for discussion when planning and developing his or her course. Student may encounter challenges in his or her learning and the teacher needs to provide opportunities so that the distance learner can "share discoveries and intellectual experiences with someone, to exchange views and through this exchange learn confidently to work with the intellectual matter concerned" (Holmberg, 1995, p. 337).

The second theory focuses specifically on 'distance', with an emphasis on the 'transactional distance' theory posited by Moore (1973). Moore (1993, p. 22) believes

that “distance education occurs between teachers and learners in all environments”. This separation can negate the learning experience, as Moore (1993, p.22) explains: “with separation there is a psychological and communications space to be crossed, a space of potential misunderstandings between the inputs of instructor and those of the learner. It is this psychological and space that is the transactional distance”. This separation between the teacher and the learner plays a defining role in how the teaching and learning process is shaped. Even though Moore (1993) points out that transactional distance occurs in all classrooms, this can be more problematic in distance education, particularly when no interaction or communication exists between the teacher and the student. Greater dialogue between the student and the learner results in shorter transactional distance between them. Tackling transactional distance is crucial in distance education as physical distance between the teacher and the student is unavoidable (Moore, 1973). Linking back to two-way communication, clear lines of communication can reduce transactional issues in teaching and in learning. The emergence of information and communication technologies has shaped new approaches and relationship in teaching and learning, resulting in efforts to increase dialogue and interaction in distance learning. For example, Birochi and Pozzebon (2011, p. 568) argue that social and digital networks “have been affecting education processes at a distance through the deepening of participation and collaboration among their members (students, teachers, education institutions etc.)”. Three levels of interaction should occur in distance education (Moore, 1993). Learner-content interaction, which relates to the interaction that exists between the learner and the subject material, is essential in distance education. Second, learner-teacher interaction occurs when feedback from the teacher to the learners reduces generalised teaching and learning procedures and transactional issues.

> The instructor is especially valuable in responding to the learner's application of knowledge. Whatever self-directed learners can do alone for self-motivation and interaction with content presented, they are vulnerable at the point of the application. They do not know enough about the subject to be sure and that they are applying it correctly, applying it as intensively or extensively as possible or desirable, nor are they aware of all the potential areas of application. (Moore, 1993, pp. 22-23)

Finally, learner-learner interaction involves learners interacting in groups. Moore (1993) points out that learner-learner interaction can be facilitated through the employment of digital and technological resources. Learner-learner interactions in groups can motivate learners to take agency and ownership in their learning.

In conclusion, it is important to reflect on the developments in distance learning, particularly practical and theoretical developments. Online learning experiences should be developed to reflect the needs of the learner and to provide students with the opportunity to take ownership and leadership in their learning. This section has flagged the shortcomings in traditional models of distance learning, particularly around the use of the 'economy of scale' approach. Drawing on the theory around distance and communication, students learning at a distance should be afforded meaningful opportunities to interact and engage with both tutors and peers.

2.2. The Emergence of Distance Learning in Teacher Education

With rising birth rates globally, increase in population, and shortfall in teacher supply, demands have been placed on governments to develop teacher education programmes. Spanning back two decades, where online communication was in its infancy (Web 1.0), governments explored distance learning approaches and strategies in attempt to address this problem:

> Distance-teaching methods have proved attractive to ministries of education for three main reasons: they make it possible to reach students who cannot get to a college; they lend themselves to part-time education so that students are not taken out of the work force in order to study; they appear to allow economies, in part by avoiding the need for new buildings, including housing for students. (Perraton, 1993, p. 3)

The past two decades has seen an increase in 'for-profit providers' offering alternative entry pathways into teaching (Cochran-Smith et al., 2015). In 2003, the then Department of Education and Science (DES) in Ireland approved an online primary teacher preparation programme to be designed and delivered by a for-profit online college. This was initially approved by the DES as a response to a shortage of unqualified teachers in Irish primary schools (Smith, 2012). However, this decision by the DES was subject to much comment at the time. Although teacher shortfall has been addressed in the interim, this online provider continues to offer teacher preparation programmes (primary and post-primary consecutive programmes).

Withstanding the popularity of 'online' teacher education by for-profit providers, university-based teacher educators have set out to identify the value in employing online and distance learning in teacher education programmes (Clarke, 2009; Collin & Karsenti, 2012; Dabner, Davis & Zaka, 2012; McLoughlin, Brady, Lee & Russell, 2007; Jung, 2001; Van Gorp, 1998). Teacher educators are increasingly using online approaches to extend support to students during their practicum element (Clarke, 2009; Collins & Karsenti, 2012; Dabner et al., 2012; McLoughlin et al., 2007). McLoughlin et al. (2007) established an e-mentoring framework using a Community of Practice (CoP) approach and conducted research into the effectiveness of this support system. Structured activities around e-mentoring were developed. According to McLoughlin et al. (2007), e-mentoring affords the learner and the mentor to interact in space that is not dependent on time and space. This can be achieved using asynchronous computer-mediated communication (CMC); the use of text based communication. The use of a space that promotes e-mentoring also enables the pre-service teacher to experience working in a community. Within this community, students can exchange and share ideas. The sense of working in a community also

alleviates the problem of teacher-isolation (McLoughlin et al., 2007). Watson (2006) posits that the utilisation of information and communication technologies result in more effective interactions occurring than in large-class discussion. Like McLoughlin et al. (2007), Clarke (2009) also employed an Online Community of practice (OCoP) framework within her research to develop a virtual learning environment (VLE), facilitated mainly through asynchronous discussion. The VLE served three purposes: the sharing of reflective writing, the sharing of resources, and engagement in informal spaces entitled 'coffee bars' where informal discussions around teaching and learning take place. According to Clarke (2009, p. 527), the use of VLEs (virtual learning environments) within initial teacher education programmes provide environments that "allow the flexibility to make learning links throughout the education community". In addition to this, the VLE enables student teachers to develop a sense of community. "Students who made most use of the VLEs were emphatic that their lower usage colleagues could find themselves at a major disadvantage though a sense of isolation and less sharing of resources" (Clarke, 2009, p. 527). Collin and Karsenti (2012) focus on the nature of online interaction as support for reflective practice for pre-service teachers. Like McLoughlin et al. (2007), Collin and Karsenti (2012) argue that web-based communications can be advantageous to allow contact to occur between the higher education institution and the student during the practicum element. In terms of the practicum, this provides the student with an appropriate context for engaging in reflective practice. Using web-based communication, Collin and Karsenti (2012) explore the effectiveness of online interaction as a support for student teachers. Within the research, the authors discuss the interaction of students in asynchronous settings (mailing list) during the practicum element. Collin & Karsenti note: "online interaction appears to support reflective practice in preservice teachers, if we go by

the quality of the reflective thinking generated" (2012, p. 56). Collin and Karsenti (2012) point out in their research that online learning should be treated as 'secondary' in facilitating effective placements for student teachers. The mentoring relationship between the cooperating teacher and the student remains to be of 'primary' importance in relation to the practicum. They argue that online interventions, such as their online asynchronous space, should weave into and compliment the partnership and mentoring process that exists between the student, cooperating teacher and university tutor. Therefore, when teacher educators engage in designing online interventions, particularly around placement, considerations should be given to how such online interventions can enhance existing partnerships between the HEI, the cooperating teacher and the student.

2.3. Theoretical Underpinnings of the CoI Framework

As the previous section highlighted, the technological advancements in distance learning and the development and verification of theoretical frameworks have provided online educators with opportunities to effectively facilitate online experiences, straddling technology and effective pedagogy. Such frameworks have been welcomed as studies have highlighted that the failure of online learning environments and learning experiences for students have been linked to poor or limited knowledge in relation to the integration of technology and pedagogy (Akyol, Garrison & Ozden, 2009; Garrison & Arbaugh, 2007). Garrison, Cleveland-Innes and Fung (2010a) maintain that theoretical frameworks provide online educators with the scope to investigate research and practice in online teaching and learning. A number of theoretical frameworks were initially considered in supporting the design of LÍNTE. Online communities of practice were initially considered, which draw on community of practice theory. Communities of Practice (CoPs) can be defined as "groups of

people show share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger, McDermott & Snyder, 2002, p. 4). Online communities of practice (OCoPs) share the same features, but such communities interact in online or virtual spaces. Wenger et al. (2002) note that there are three key elements of CoPs: domain, community, and practice: (1) the domain presents the common ground, the identity for the community in question; (2) community is concerned with the interaction amongst participants and (3) practice is concerned with the knowledge that is developed and shared within the community. The Conversational Framework (Laurillard, 2002) is another framework which is very much focused on online teaching, but, it has been noted that this framework has been utilised in face-to-face settings. The teacher is a central figure in the Conversational Framework. The framework features four key phases: (1) the discursive phase involves the teacher presenting a new concept and providing opportunities for the learners to engage in dialogue with the teacher; (2) the interactive phase involves the learner engaging a task constructed by the teacher. The learner attempts to put the test into practice, and receives feedback; (3) the adaptive phase occurs when learners attempt to modify and adapt their ideas or actions in the light of what they have learned; and (4) the reflective phase in which learners consider and reflect on their learning and experience, and frame future actions to be more successful. However, the study drew primarily on an established developed theoretical framework - the Community of Inquiry (CoI) framework. The rationale for selecting this framework is primarily due to the standing and credibility it currently holds in the online education scholarly field. The CoI framework is regarded as "one promising theoretical perspective" (Garrison et al., 2010a, p. 31). The initial article written by Garrison, Anderson and Archer (2001), which was the genesis of the theoretical

framework, has been cited in a large body of research and publications (Akyol & Garrison, 2008, 2011; Arbaugh, 2007; Garrison, 2011; Garrison et al., 2010a; Garrison, Anderson & Archer, 2010b; Garrison & Arbaugh, 2007; Shea & Bidjerano, 2009; Shea et al., 2010). The CoI framework is premised in the belief that effective and meaningful higher-order learning can take place in a community of learners. It captures the concept of addressing learning at a distance and enhancing communication, and draws on the work of Moore (1993) and Holmberg (1995). To eliminate transactional issues and promote interaction, this framework identifies three key elements, namely social presence, cognitive presence, and teacher presence. These are regarded as essential for online educators when designing and facilitating online learning so that higher-order learning experiences are maximised for students (Akyol & Garrison, 2011; Garrison et al., 2010a; Shea et al., 2010).

Garrison, Anderson and Archer (2003) also argue that the CoI framework values and emphasises higher-order learning and assumes that higher-order learning can be facilitated within communities of inquiry. Furthermore, communities of inquiry endorse collaborative and constructivist learning within a community of learners. The traditional assumptions and theories of learning, specifically behaviourist learning theory, has come under criticism across the educational field, including the distance and online learning field (Selwyn, 2011). Drawing back to the previous section in relation to the transition from the industrial era to the post-industrial era, perspectives around the value, purpose and meaning of education has changed (Birochi & Pozzebon, 2011). For example, practitioners and researchers in distance and online education began to criticise the notion that learners could not "be programmed like robots, to always respond in the same way to a stimulus" (Harasim, 2012, p. 59). The stance that the "active construction of understanding by the learner and of the situated

nature of learning" where "understanding is in the doing" has become widely accepted in distance educational practice and research (Duffy & Kirkley, 2004, p. 109).

Since the emergence of the CoI framework in 2001, Garrison (2011) has argued that studies in the field have set out on a quest to contribute to the underlying theoretical assumptions associated with this framework. However, the lack of clarifying or positioning the theoretical foundations have been subject to criticism. For example, Jézégou (2010, p. 2) is critical of the theoretical foundations of the CoI framework, where she notes that this model does not "make sufficiently explicit the conceptual foundations". She contends that the CoI theorists limit themselves in developing the theoretical foundations that underpin model. Furthermore, "a number of theoretical perspectives that contribute to the presentation of its conceptual bases" are suggested (Jézégou, 2010, p. 7). In response to the criticisms of Jézégou (2010), Garrison (2013) has argued that there has been a focus of research that has set out to address "many of the theoretical concerns voiced by Jézégou, especially with respect to understanding the conceptualization of the element" (Garrison, 2013, p. 2). In respect to this, Garrison (2013) argues that several publications have exclusively focused on the epistemological assumptions underpinning the CoI framework (Swan, Garrison & Richardson, 2009; Akyol & Garrison, 2011; Garrison, 2011; Garrison, 2013).

Swan et al. (2009) believe that the CoI captures the philosophical and practical beliefs of John Dewey (1933) and ascertain that the community and inquiry at the core of Dewey's work and his belief that "the education experience must fuse the interests of the individual and society, that individual development was depended upon community" is evident in the CoI (2009, p. 3). Furthermore, the process of learning is a 'social activity' and that "through collaboration that respected the individual,

students would assume the responsibility to actively construct and confirm meaning" (Swan et al., 2009, p. 3). Garrison (2013, p. 2) further emphasises the important of collaboration and community in a follow up study around the theoretical foundations of the CoI:

> Learning in an educational context is a social enterprise. The social nature of an educational experience draws attention to a specific kind of learning that is inherently community based and collaborative…community is defined by context and purpose…a purposeful and formal focus to learning… collaboration reflects the reality of mutual community.

The CoI framework also promotes critical thinking (Garrison, 2011). Critical thinking is affiliated with the cycle of reflective activity (Dewey, 1933):

> Dewey (1993) described the complete cycle of reflective activity in terms of a pre-reflective state which starts with a problem, followed by five phases of reflective thought (suggestion, intellectualization, guiding idea, reasoning, and testing), and ends with a satisfactory resolution. Dewey believed that reflective inquiry has practical value in providing meaning to experience, and so described a practical method of inquiry, in addition to the full model of reflective inquiry, on which he believed an educational experience should be based. (Swan et al., 2009, p. 6)

Dewey (1933) maintained that reflective activity reflects the "individual's private and reflective world juxtaposed with the community's shared world of discourse. Practical inquiry iterates imperceptibly between these two worlds". This stance is revisited further in the work of Dewey (1959, p. 20) where he recognises that the educational world has two sides - the 'psychological side' and the 'sociological side' and "neither can be subordinated to the other or neglected without evil results following". The CoI framework also draws on the argument of Dewey (1938) around the responsibilities of educators in enhancing and facilitating enquiry-based experiences for learners. Swan et al. (2009) note: "It is the responsibility of the educator to establish aims and activities, but not be straight-jacketed by them. To establish and sustain a community of inquiry, he maintained, educators must be knowledgeable, flexible but focused, and comfortable with certainty". Dewey (1938) also argued that careful attention should

be given to facilitating "appropriate relationships by giving as much attention to the organization of the social environments of the classroom to its physical environment" (Swan et al., 2009, p. 12). Swan et al. (2009) critique the HEIs in traditionally emphasising constructivist approaches through the process of transmissive and independent learning. HEIs must emphasise the social construction of knowledge in communities of learners when designing and facilitating online learning. Swan et al. (2009, p. 4) warn that the formation of such communities "cannot be taken for granted". The emphasis on adopting this approach, particularly in teacher education, is highlighted in the forthcoming section.

Teacher education programmes have increasingly prioritised constructivist epistemologies, where knowledge is recongised as constructed and dynamic (Lave, 1996; Putnam & Borko, 2000). Sawyer (2008, p. 5) argues that a knowledge and understanding of the nature and science of learning (including constructivism) is pertinent for stakeholders who design learning environments and classrooms: "Constructivism explains why students do not learn deeply by listening to teacher or reading from a textbook". Furthermore, Sawyer (2008) argues: "To design effective learning environments one needs a very good understanding of what children know when they come to the classroom" (p. 5). When student teachers engage in collaborative learning which is underpinned by constructivist ideas, it can lead to the expansion of students' existing knowledge base and understanding around constructivist learning (Beck & Kosnik, 2006; Sawyer, 2008). Sawyer (2008, p. 9) notes that technology, across the continuum of education, can enable learners to "share and combine their developing understanding and benefit from the power of collaborative learning". In order to recognise "the various stakeholder groups involved in an online course (student, instructor designer) and what each can do to make their

course a successful learning experience" (Swan et al., 2009, p. 23), the forthcoming sections focus on the cognitive, social, and teaching presence and how these build on and enhance constructivist theories of learning. In conclusion, the importance of collaborative and constructivist learning is not only endorsed in online learning literature, but the seminal theorists devalue transmissive forms of learning in virtual spaces. The forthcoming sections set out guidelines on how to create a learning environment, that can capture such constructivist thinking and learning. As alluded to earlier, the CoI frameworks identifies three important elements in fostering such learning experiences, namely the teaching presence, social presence, and cognitive presence. The design factors and implications are highlighted in light of the theoretical developments that have been previously discussed.

2.4. Teaching Presence in the Community of Inquiry

The previous section of the literature focused on the epistemological bases that the CoI framework values, namely the value of community, the value of the construction of knowledge, and the value of independent and social learning. To facilitate and sustain effective collaborative learning within communities, there needs to be deep conceptual understanding of effective teaching and learning within the online space:

> Those education systems and individual teachers that are best able to make clear their grounding assumptions, goals and processes – and to ensure that these are aligned with the most effective use of tools to overcome space, time and distance – will be able to make the best decisions and to build the most responsive educational programs, whatever the mode of delivery. (Anderson, 2001, p. 35)

Teaching online can be an onerous, challenging and complex task (Anderson, Rourke, Garrison, & Archer, 2001; Garrison 2011). Online learning can present challenges, as it requires a shift or change in pedagogy and teaching methods. Palloff and Pratt (2007, p. 129) note: "Many instructors have mistakenly assumed that teaching online

involves what is termed curriculum conversion, which basically means taking a course taught face-to-face and simply putting that course online without making many adjustments". Limited understanding of effective pedagogies may result in the instructor lacking the capability to promote collaborative learning online. Also, it has been argued that the teaching presence impacts and overlaps the social and cognitive presences (Kupczynski, Ice, Wiesenmayer, & McCluskey, 2010). Garrison (2011, p. 55) notes:

> It should be emphasized that teaching presence is what participants (usually the instructor) do to create a community of inquiry that includes both cognitive and social presence. Therefore, we do not focus specifically on the social and cognitive elements themselves but on the roles of a teacher or the actual functions that a teacher must perform to create and maintain a dynamic learning environment. These functions are integrative in the sense that teaching presence must bring together the cognitive and social in purposeful and synergetic ways.

Therefore, to overcome such significant challenges, it is important to focus on existing literature around the key roles, principles and responsibilities of the online educator. As Table 2.1 illustrates, the teaching presence needs to focus on three key areas: (1) course design and organisation, (2) facilitating discourse, and (3) direct instruction (Anderson et al., 2001; Arbaugh & Hwang, 2006; Garrison, 2011; Shea, Fredericksen, Pickett, & Pelz, 2003).

2.4.1. Course Design and Organisation

The planning and design of online environments is demanding but careful organisation allows for "effective responsiveness to developing needs and events" (Garrison, 2011, p. 58). Anderson (2001, p. 30) caution that the ever-rising technological bar" can restrict learners in accessing certain digital resources. In addition, issues around students' technological competencies can present problems for interaction among learners within the online environment. Therefore, Anderson (2001) recommends that the technological needs of the students should be addressed

when designing online environments. Support should be available to all stakeholders involved within the community, and students who may encounter difficulties or challenges should be affirmed, supported and encouraged. The online teacher needs to ensure that he or she has a clear structured roadmap. When designing an online environment, Palloff and Pratt (2007) advise: (1) there should be clear measurable learning outcomes that are appropriate to the students' learning, (2) meaningful learning activities are organised, (3) interactive resources which can facilitate independent and collaborative learning should be prepared and utilised, (4) protocols are made apparent to the students from the outset, and (5) there is a clear timeline for designing and organising all aspects of the online environment. When successful design and organisation is provided, this can provide an appropriate space for meaningful discourse and direct instruction (Arbaugh & Hwang, 2006).

2.4.2. Facilitating Discourse

There should be appropriate emphasis placed on facilitating and enhancing discourse within the online space. "This role requires more than merely facilitating discussions because it is required to attain the learning objectives in the course. The characteristic is associated with sharing meaning, identifying areas of agreement and disagreement, and seeking to reach consensus and understanding" (Arbaugh & Hwang, 2006, p. 12). The online teacher should recognise and build on students' comments, raise questions, make observations, move the discussions with efficiency, and draw out inactive students who may not be participating accordingly (Anderson, 2001; Arbaugh & Hwang, 2006; Anderson et al, 2001; Garrison, 2011; Shea et al., 2003). Shea, Sau Li and Pickett (2006, p. 176) note:

> It is through effective design of opportunities to fully engage in such discourses that learners can participate in the pedagogical processes that support learning. These processes include the articulation and presentation of current views, the

> consideration of alternative views expressed in course materials and by classmates and instructors. Ideally these processes also include opportunities to reflect and re-think previous positions, and the consequent integration of new ideas existing cognitive structures.

Therefore, facilitating discourse is only effective when participants engage. This can present a challenge for the online teacher. Although he or she can control and manage the design of the online course, by designing a suitable context for online interaction, a community may not be formed unless learners interact with each other (Arbaugh & Hwang, 2006). Palloff and Pratt (2007, p. 150) refer to the frustration that online teachers express when online participation is inactive or lacking. In fostering active participation, a visible presence by the online teacher, is important. It is important that there is a clear syllabus, participation guidelines, a willingness to step in and be proactive in keeping the participation going in the appropriate direction from the outset. Palloff and Pratt (2007) suggest that early stages of the teaching within the online environment should concern itself with setting the foundations of the learning community; encouraging learners to interact with each other which can be facilitated through ice breaker activities and introductions. Students can also be invited to share their own expectations and what they would like to achieve from engaging in the course. However, the over preoccupation with building social relationships is cautioned, and this will be discussed at a further point in this chapter.

2.4.3. Direct Instruction

Anderson et al. (2001, p. 8) describe *Direct Instruction* as involving the online teacher who provides "intellectual and scholarly leadership" and shares "their subject matter knowledge with students". Furthermore, there is an expectation that the teacher communicates "content knowledge that is enhanced by the teacher's personal interest, excitement, and in-depth understanding of the content". Anderson et al. (2001, p. 8) believe that a "laissez-faire approach misinterprets a fundamental element of peer

collaboration models". Garrison (2011, p. 60) also argues against the "guide on the side" or "laissez-faire" approach suggesting that it "misinterprets the collaborative constructivist approaches to learning and the importance of systematically building learning experiences (i.e. scaffolding) to achieve intended, higher-order learning experiences". Drawing on Vygotsky's scaffolding theories, learning activities should be organised and facilitated using a systematic sequential approach (Anderson et al., 2001; Arbaugh & Hwang, 2006; Garrison, 2011).

Table 2.1. *Descriptions and indicators of effective teaching presence*

Description	Indicators
Design and organisation Facilitating discourse Direct instruction	Setting curriculum, goals, and methods Sharing personal disclosures relating to the topic Focusing and guiding discussions

2.4.4. Students' Perceptions of Successful Teaching Presence

Sheridan and Kelly (2010) focus on the indicators of teaching presence that students perceive to be important in online learning. Using a cross-sectional survey approach, data was analysed using (1) descriptive statistics within close-ended survey items and (2) content analysis within open-ended survey items. A total of 65 respondents, who had participated in online courses, participated in the research. A significant limitation, identified by the researchers, was the generalisation of the results. The researchers used convenience sampling and many of the respondents were from one university (Sheridan & Kelly, 2010). However, there are certain findings from the study which are congruent with the literature discussed in the previous subsections. Students, within the survey, found that clarity and communication from

the online teacher was essential. The importance of community building was not made explicit to the researchers but Sheridan and Kelly (2010, p. 777) note:

> The importance of community was indicated indirectly, though, through the students' ratings of the close-ended items and some of the open-ended items. For example, "creating a feeling of community" had a relatively high mean of 8.37 although it did not make the top 10 indicators in terms of importance. Other items that were rated highly and are indicators of community were "Gives me a sense of belonging in the course" (Arbaugh et al., n.d., item 14), "Create[s] a feeling of trust and acceptance" and "Makes me feel that my point of view was acknowledged by other course participants". (Arbaugh et al., n.d., item 22)

Thus, while the students did not rate the creating of a community as highly important, they did rate some of the indicators within the community construct as relatively high in importance. The study also yielded an interesting finding in relation to the debate around synchronous and asynchronous learning. Being able to see the online teacher or hear the online teacher was not perceived as important within the study. Instead, students valued the importance of building social relationships through icebreaking activities and getting to know each other in the online space as important (Sheridan & Kelly, 2010).

Shea et al. (2010) conducted a content analysis study where they analysed two archived online courses (the analysis did not begin until eight months after the two courses ended). Although described as a time- and labour-intensive study, Shea et al. (2010) note that their study yielded interesting findings which could have significant implications for research and practice. One suggestion, arising from the study, is around the value of integrated practice in online teaching. The researchers note that integrative designs can be a "promising approach" as relating "discussion content to other learning activities" can create "opportunities for students to probe deeply and to draw meaningful connections between concepts and topics addressed in public discourse and in their own private cognition as they work on individual written assignments" (p. 142). Another finding, which correlates with the finding of Sheridan

and Kelly (2010) above, is that the presence of the teacher could be established in "varied and subtle ways":

> In this study we found that the effectiveness of the instructor did not depend on participation within the threaded discussion per se, but that the responsiveness and effective interaction with students was carried out through a variety of forums, including the ask-a-question area, email, and other modes of communication. (Shea et al., 2010, pp. 142-143)

Kupczynski et al. (2010), employed a 3-question open-ended survey where the survey was distributed to two different student populations (n=643) within two different institutions – South Texas College (STC) and West Virginia University's College of Human Resources and Education (WVU). The responses were analysed using "interpretative, iterative approach" drawing out "thematic strands", "both within and cross case analyses were utilized to ensure themes were properly categorized" and the data was then transformed and quantified by themes (p. 26). The study illustrates different findings (using descriptive statistics and odd ratios approaches) between the two populations. Within WVU, students perceive discourse to be the most important success indicator in relation to teaching presence. The researchers note:

> Of this percentage, over three quarters consisted of the value students placed on two of the indicators. The role of the instructor in encouraging students to explore new concepts accounted for 25.98% of all replies and the instructor helping students clarify their thinking accounted for 23.13%". (pp. 31-32)

In relation to STC, 38.96 % cited feedback as being the most important to the success of the course. Within STC, students found that their learning was successful when regular input from the teacher occurred and clear direction was offered. WVU students found that learning was successful when the teacher intervened in discussions "to help broaden their conceptual horizons and explore new possibilities" (Kupczynski et al., 2010, p. 32). Within STC, inadequate course design and organization equated to unsuccessful learning. Students reported inadequate direct instruction and feedback as the dominant factor that led to unsuccessful learning. Both groups reported that "lack

of feedback, lack of clarity in instructor [teacher] comments and confusing or misleading instructions, syllabi entries, etc." equated to unsuccessful learning (p. 32). Out of the three categories (Course Design and Organisation, Facilitating Discourse, and Direct Instruction), Kupczynski et al. (2010) posit that "adequate projection of the indicators of instructional design and organization are required…a lack of adequate indicators in this area is perceived by all students as being related to their lack of success". Like Sheridan and Kelly (2010) and Shea et al. (2010), Kupczynski et al. (2010) also note that the findings from their study should not be accepted as conclusive. Problems arose within the research design where demographic factors between the two populations may have influenced student perceptions. Furthermore, the findings were limited to descriptions of "one instructor action they [the students] believed to be most responsible for their success in the course and one action they believed to be most responsible for the lack of success" (Kupczynski et al., 2010, p. 34). Drawing on the three studies, compelling findings arise from the research. The findings suggest that certain students value one category over the other (Kupczynski et al., 2010). Although these findings are compelling and not recognised as conclusive, it is important to grasp a picture of what existing studies highlight in relation to teaching presence, and furthermore, build on such research in the design of LÍNTE.

2.5. Social Presence in the Community of Inquiry

The nature of social presence in an online environment has been shown to be an important factor in designing and sustaining an effective online learning community (Aragon, 2003; Dunlap & Lowenthal, 2009; Garrison, 2011; So & Brush, 2008; Swan & Shih, 2005; Szeto, 2015). Traditionally, social presence research (particularly within the infancy stages of the CoI) focused on the impact of creating a community of learners within asynchronous learning. A research agenda focused on developing

an understanding around creating effective communities of learners in the asynchronous space (Garrison et al., 2000). As Dunlap and Lowenthal point out (2009), researchers and practitioners are continuously exploring different ways to establish and sustain effective social presence in online courses.

In revisiting the historical developments around distance education, Garrison (2011, p. 30) believes that the greatest shortcoming has been the "denial of community" forcing students to study in isolation. Alluding back to the epistemological bases of the CoI, this framework is guided by constructivist learning which values collaboration and community. Online learning environments have been criticised for lacking interaction (So & Brush, 2008). Garrison (2011, p. 32) rejects this criticism and the preconceived idea that social interaction is inhibited within the asynchronous space. He argues that written communication may well be more effective for facilitating critical thinking and discourse:

> The conclusion is that the apparent limitations of text-based e-learning may well provide advantages not possible in face-to-face educational context. The leanness or richness of the medium will be defined by the task at hand (i.e. purpose) and by the compensation opportunities the medium affords. (p. 32)

Social presence fosters interactions among participants and strengthens interpersonal relationships between the students and teacher (Dunlap & Lowenthal, 2009). In recent years, with the ongoing developments in Web 2.0 and social media, research has begun to explore other approaches in establishing social presence, such as blended and synchronous learning (So & Brush, 2008; Szeto, 2015) and micro-blogging social media approaches (Dunlap & Lowenthal, 2009). Despite the availability of Web 2.0 and synchronous and asynchronous platforms, Garrison (2011, p. 32) argues that online educators should remain focused of the careful establishment and facilitation of social presence and cautions that the online environment does not become concerned with "purely social purposes where students are not predisposed to be

sceptical or critical of ideas expressed for fear that they might hurt somebody's feeling and damage a relationship". Contextualising social presence within education means that an inclusive community of support is created that promotes questioning, scepticism, sharing of ideas, and critical thinking. In relation to the findings of So and Brush (2008), which were gleaned from a mixed methods study, collaborative learning activities foster an effective social presence in online environments. The establishment of an educational environment is designed with the purpose of enabling students to learn about a specific subject or area. It is not a space for exclusively fostering and building relationships. Garrison (2011) emphasises that group identity should be at the centre of the community of inquiry. Group cohesion should be fostered and built through collaborative learning activities (see Table 2.2.). Participants should value the importance of working as a group, as they engage in working in collaborative academic activities as opposed to building personal relationships (So & Brush, 2008). Although Garrison (2011) argues that communities of inquiry recognise the value of personal relationships, these can be developed within an educational climate, enhanced through academic discourse and collaborative activities. Szeto (2015, p. 200) believes that online learners should set out to establish "an appropriate social climate for meaningful discourse among the course participants". Garrison (2011, p. 34) notes: "The bottom line is that excessive emphasis on developing interpersonal relationships may have deleterious effects on the academic functioning of the group if the individual bonds are stronger than the identity to the group and its goals". In addition to this, Szeto (2015) explains that interactions emerge when students are engaged in online discussions and in group-based problem-solving exercises and projects. Although So and Brush (2008) encourage online teachers to employ social building activities, Garrison (2011) cautions against the teacher becoming over

preoccupied with these. Furthermore, students should be encouraged to contribute personal anecdotes but Garrison (2011) warns that personal biographies should not distract the learning goals of the group. To sustain effective communities, where group cohesion is central in the learning, Garrison (2011) explores three categories which should be addressed from the outset in communities of inquiry: (1) interpersonal communication, (2) open communication, and (3) cohesive responses.

Table 2.2. *Descriptions and indicators of effective social presence*

Description	Indicators
Interpersonal communication	Expression of emotion in a safe space
Open communication	Active collaboration and interactions
Group cohesion	focussed around learning activities

2.5.1. Interpersonal Communication

Revisiting the previous discussion, it appears that group identity is paramount when design online environments using the CoI framework and the formation of group identity takes precedence over personal identity (Garrison, 2011). In addition to this, interpersonal communications should be promoted from the outset of the online learning environment to promote meaningful academic discussion. Second, students should be encouraged to express feelings and feel comfortable in expressing feelings within the synchronous and asynchronous space. Focusing on text-based communication, the power of language can support such expressions. The use of personal references, self-disclosure, affective expression (through capitalisation and emoticons), and salutations can all be expressed through text-language. In looking at synchronous communication, So and Brush (2008, p. 331) suggest that the use of such

approaches in online learning "can permit more immediate responses and visual/audio cues to compensate for the lack of synchronous interaction among distance students".

2.5.2. Open Communication

A critical component in fostering social presence within a community of inquiry is ensuring that open communication is reciprocal and respectful in nature (Garrison, 2011). To promote open communication within the online space, a spirit of trust, mutual respect, and openness should be promoted. In addition, the self-esteem of all participants should be enhanced through recognising and valuing all participants, encouraging participants to engage, complimenting students, listening to inputs and responding to contributions, expressing agreement, and responding to questions posted by others. In addition to communication among students, Dunlap and Lowenthal (2009, p.130) point out:

> Contact between students and faculty in and outside of class is critical for student engagement because it influences student motivation and involvement. When faculty stay in touch with students through formal and informal communication and dialogue, students report that it helps them through the rough times and keep on working.

Open communication between students and teachers enhances and encourages students to engage in learning.

2.5.3. Cohesive Responses

The value of group cohesion in communities of inquiry has been previously discussed. Garrison (2011, p. 39) defines it as "the dynamic state that social presence is attempting to achieve. It is cohesion that sustains the commitment and purpose of a community of inquiry, particularly in an e-learning group separated by time and space". The development of a successful cohesive community can result in a community that constructs meaning, and completes collaborative and optimised learning activities. Furthermore, where collaborative learning experiences are

organised in the online space, students get opportunities to work together and to become familiar with fellow participants.

2.5.4. Students' Perceptions of Successful Social Presence

In the discussion around students' perceptions of social presence, Garrison (2011) notes that students do not find learning in the online space hostile or impersonal. Students define that problems arise when there is an over-emphasis on social-building relationship, which negates the actual learning within the community. He argues:

> We must reiterate that the purpose of establishing a secure environment is to facilitate critical thinking and inquiry. Instructors should not emphasize personal identity at the expense of group identity and academic goals. Ice-breaking activities should not be focused only on introductions but designed around discussing course expectations and establishing group identify by asking students to collaboratively explore and negotiate requirements. (p. 41)

The value of synchronous communication is highlighted, particularly in establishing social presence in the community of inquiry (Garrison, 2011; So & Brush, 2008; Szeto, 2015). "This can have an accelerating effect on establishing social presence and can shift the group dynamics much more rapidly toward intellectually productive actives" (Garrison, 2011, p. 41). Furthermore, when students are synchronously connected with their peers, this can enrich the emotional bonding and closeness (Szeto, 2015). Finally, Swan and Shih (2005) argue that students believe that social presence is successful (a) when the teacher carefully designs online discussion experiences and (b) when support for students in how to present themselves online in discussion is made available. In concluding the discussion around social presence, the literature makes the case, at various stages in the discussion that group cohesion is paramount and groups should engage in collaborative learning and in meaningful academic discourse.

2.6. Cognitive Presence in the Community of Inquiry

Shea and Bidjerano (2009) believe that the theoretical frameworks of Larreamendy-Joerns and Leinhardt (2006) and Mishra and Koehler (2006, 2008) have played a role in explaining and improving the learning process and the cognitive presence element in online learning. Mishra and Koehler (2008) developed the Technological Pedagogical Content Knowledge (TPCK) theoretical framework. At the annual meeting of American Educational Research Association (AERA) in 2008, Mishra and Koehler described their framework as "a way of thinking about the knowledge teachers need to understand to integrate technology effectively in their classrooms". The framework is premised in the work of Rick Shulman and his theory of pedagogical content knowledge (PCK) which represents "the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction" (Shulman,1986, p. 8). PCK enables teachers to have the capacity to transform content knowledge into "forms that are pedagogically powerful" (Shulman, 1986, p. 15). Teachers' understandings of subject areas will provide them with the capacity to select a "repertoire of approaches or strategies of teaching" such as demonstrations, simulations, discovery learning, and project-based work" (Shulman, 1986, p. 16). Building on Shulman's intersection of pedagogy and content knowledge, the TPCK framework adds a 'technology' component. In relation to TPCK, teachers "need to understand which specific technologies are best suited for addressing subject-matter learning in their domains and how the content dictates or perhaps even changes the technology – or vice versa" (Mishra & Koehler, 2008, p. 7). Furthermore, teachers need to have knowledge of "pedagogical affordances and constraints of a range of technological tools as they relate to disciplinary and

developmentally appropriate pedagogical designs and strategies" (Mishra & Koehler, 2008, p 9). TPCK involves the teacher understanding "how to represent concepts with technologies, pedagogical techniques that use technologies in constructive ways to teach content" (p.10). In applying TPCK to the CoI, Shea and Bidjerano (2009, p. 544) note: "The TPCK focuses on direct instruction with an emphasis on instructor-provided representations, analogies, examples, explanations, and demonstrations with the aid of technologies". The CoI places an emphasis on the importance of (online) teacher knowledge of "technology-mediated direct instruction" in developing cognitive presence. However, there are also distinctions with this theoretical framework. First, Shea and Bidjerano (2009) believe that this framework exclusively focuses on 'traditional' classroom practice. Second, they argue that this framework over emphasises direct instruction and there is limited attention placed on learner-to-learner interaction. In promoting the co-construction of knowledge among learners, Shea and Bidjerano (2009) explore the theory of epistemic engagement (Larreamendy-Joerns & Leinhardt, 2006). Larreamendy-Joerns and Leinhardt (2006) note:

> There is a need, however, for a caveat on online education as epistemic engagement. Our view of online education integrates a vision of knowledge as practice and of learning as emerging participation in a disciplinary community…the design of online environments should be primarily dictated by an understanding of the epistemic and discursive practices that constitute disciplinary communities, and not by pedagogical considerations and technologies that short-circuit the engagement of students. (Larreamendy-Joerns & Leinhardt, 2006, pp. 591-592)

The CoI places an emphasis on instructional conversations that leads to academic engagement (Shea & Bidjerano, 2009). "Beyond direct instruction (well described by TPCK) the teaching presence component of the CoI model also focuses attention on the design and organization of instruction, and especially the facilitation of productive discourse among students" (p. 545).

According to Garrison et al. (2001) and Garrison (2011), cognitive presence can be enhanced through practical inquiry (see Table 2.3). Furthermore, practical inquiry involves direct instruction and productive discourse among participants, as espoused above by Shea and Bidjerano (2009). Practical inquiry is premised and grounded in experience (Dewey, 1933) where "the integration of the public and private worlds of the learner is a core concept in creating cognitive presence for educational purposes. This is consistent with the sociological (shared) and psychological (private) aspects of reflective thinking proposed by Dewey" (Garrison, 2011, p. 45). However, revisiting the TPCK argument, it is important for the online educator to have a knowledge of and familiarisation with the online technologies to enhance such learning experiences.

Table 2.3. *Descriptions and indicators of effective cognitive presence*

Description	Indicators
Triggering event	Problem-posing situation/activity
Exploration	Exchanging information
Integration	Connecting ideas
Resolution	Applying new learning

2.6.1. The Practical Inquiry Model

The Practical Inquiry (PI) model identifies four phases which creates the interplay between the psychological (private) and the sociological (shared) worlds. There are four phases: the trigger phase, the exploration phase, the integration phase, and the resolution phase. This process describes the cognitive presence within educational contexts (Garrison, 2011). Garrison (2011, p. 46) notes that the four stages of the PI model are "immutable":

> They are generalized guidelines that, in practice, may be "telescoped" or reversed as insight and understanding is either achieved or blocked. However, a metacognitive understanding of all phases can be of enormous value to both

> teacher and students in assessing the task at hand and progress achieved – not to mention metacognitive awareness and the ultimate goal of self-direction and learning to learn. (Garrison, 2011, p. 46)

The first phase is concerned with triggering the event. Within this phase, there needs to be a well-thought out approach to gain the attention of the participants within the environment. Garrison (2011) recommends that the online teacher introduces a probing issue or dilemma that relates to the students' experience or previous studies in the area:

> While the responsibility of the teacher is to initiate this phase of task analysis, this can be structured in a more open manner by framing the issue and eliciting questions or problems that students see or have experienced. This has several positive outcomes in terms of involving students, assessing the state of knowledge, and generating unintended but constructive ideas. (Garrison, 2011, p. 46)

The second phase of practical inquiry focuses on exploration. Through exploration, participants are exploring the nature of the problem and make attempts to comprehend the problem through the process of gathering information and seeking explanations. This can be effectively facilitated through collaborative approaches or independent-based learning where the student may engage in exploring readings/literature around a specific topic or problem.

> Here students will experience iterations between the reflective and shared worlds as ideas are explored collaboratively and individuals try to make sense of what may seem to be complexity and confusion. This, however, is the essence of a true community of inquiry. (Garrison, 2011, p. 47)

It is important to ensure that the students are encouraged to engage in deep critical thinking. However, Garrison (2011, p. 47) notes that the challenge is to "monitor and regulate this phase of divergent thinking in such a way that it begins to be more focused in preparation for the next phase".

The third phase, integration, focuses on constructing meaning. Referred by Garrison (2011, p. 47) as a "highly reflective phase", students engage in "critical

discourse that will shape understanding". Through engaging in such discourse, the participants will be offered the opportunity to share ideas, offer meaningful solutions to existing problems, and provide rationales and justifications.

The final phase focuses on the "resolution of the dilemma or problem, whether that be reducing complexity by constructing a meaningful framework to discovering a contextually specific solution to a defined problem" (Garrison, 2011, p. 47). Also, known as the confirmation phase, this stage in the PI model may be "accomplished by direct or veracious action". Although it is noted that resolution seldom occurs, the emphasis in educational contexts is affording the students with the opportunities to explore and raise new questions and problems, and therefore resulting in new lines of enquiry. As Figure 2.1 illustrates, there is a systematic cyclical approach to enquiry that occurs within communities of inquiry.

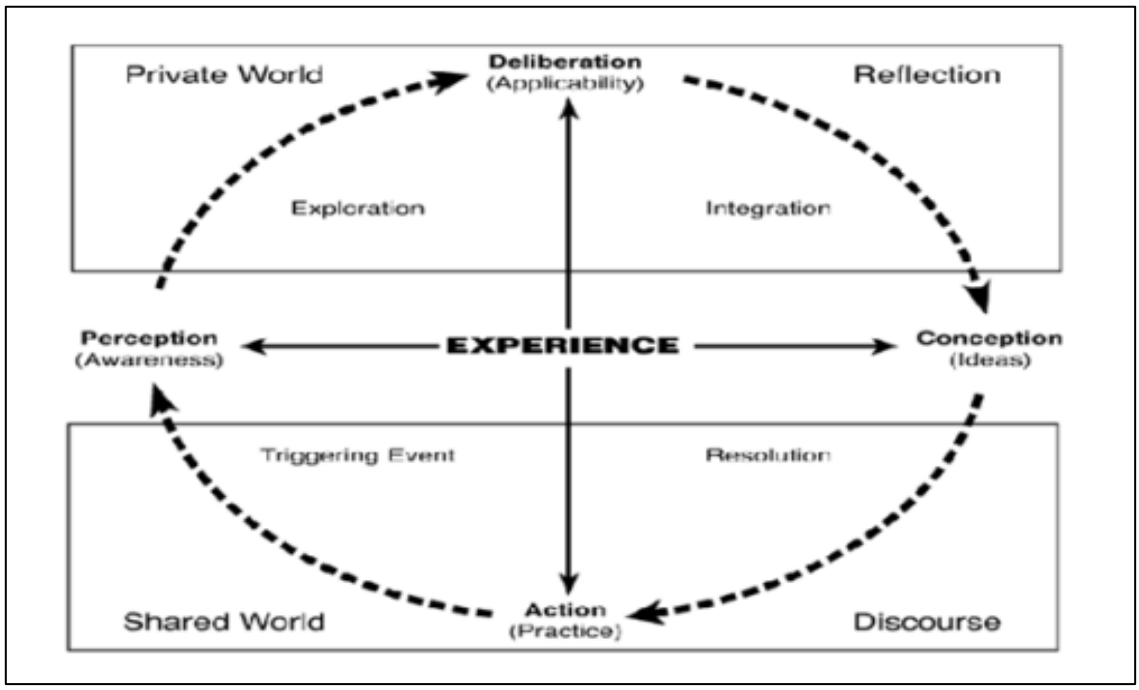

Figure 2.1. The practical inquiry model (Garrison, 2011)

2.6.2. Practical Implications

The four phases of practical inquiry associated with the PI model provide a structured roadmap for online teachers and students. However, Garrison (2011) warns that when students are not sufficiently guided by the teacher, opportunities to progress through the stages can be inhibited. It is important to ensure that students are not overloaded with content when engaging in practical inquiry. This can negatively impact reflection and collaboration. When establishing cognitive presence, it is also the responsibility of the teacher to ensure that the learning experience is structured and organised from the outset:

> Beyond clear content goals, it may be extremely advantageous to provide a metacognitive map of the PI model so students should have an awareness of their responsibilities in constructing meaning and understand the progression of their learning activities and tasks. One technique that might be considered is to have students their discussion contributions according to the phase of inquiry. This will create both knowledge and regulation of the inquiry process. (Garrison, 2011, p. 91)

By clearly communicating the benefits and purpose of the practical inquiry model, students can recognise the value in learning through this approach. In addition, the students may be motivated to progress through the various phases. To facilitate activities that establish cognitive presence, Garrison (2011) considers activities including the planning for "question-driven and problem based learning activities", the use of "break-out groups", allowing time for students to engage and complete learning activities, providing students with the opportunity to share learning experiences, and allowing students the opportunity to work in collaboration to search, analyse and synthesise information.

2.7. Exploring the Relationships between the Three Presences

As the last three sections of this chapter have focused on the discussion of the three elements of the CoI framework (social, cognitive, and teaching presence), this

section sets out to identify relationships that exist between the three elements. In exploring how the three elements overlap, this can "provide the structure to understand the dynamics of deep and meaningful online learning experiences" (Garrison et al., 2010a, p. 32). The first clear apparent linkage which is discussed in the literature is the relationship that occurs between the teaching presence and the cognitive presence. In terms of cognitive presence, the importance of moving students through the four stages of practical inquiry was outlined in the previous section. To move students through such phases, a considerable teaching presence is required (Akyol & Garrison, 2011; Garrison, 2011). The design and facilitation of courses can also have an impact on the phases of practical inquiry. Garrison (2011) and Akyol and Garrison (2011) note that the role of the teacher in the design stages of the online environment is to ensure that the participants are not overloaded with content as this can inhibit students in engaging in collaborative critical reflection. In exploring the casual relationships that exist between teaching and cognitive presence, Garrison (2011) highlights the importance of subject-matter in relation to establishing effective cognitive presence:

> As a subject matter expert, explaining questions or clarifying misconceptions is not only constructive but an important teaching-presence responsibility. Following from this, we strongly believe that a knowledgeable instructor has a responsibility to either frame the content or direct attention to specific concepts that form the basis of an organizing framework. In this way, students have, or can construct, the schema that goes beyond isolated facts and provides the foundations to facilitate continuous knowledge development. (Garrison, 2011, p. 98)

Students value a sustained teaching presence that encourages participation, models appropriate contributions, and creates manageable content which is facilitated through collaborative and individual learning approaches (Garrison & Cleveland-Innes, 2005). However, it is also worth noting that teacher-centred approaches which employ "dictating values and viewpoints is a misuse of the technology and perhaps of the educational process" (Garrison, 2011, p. 98). The overuse of direct instruction, as

discussed previously, can also have a negative impact on the teaching presence where interactions and critical reflection is reduced. It is essential that an appropriate balance is fostered to ensure that the teacher can engage in or direct discussions on the intended path and enable students to focus deeply and critically on the topic.

Garrison et al. (2010) also emphasise the relationships which exist between the teaching presence and the social presence and argue that it is essential that a strong social presence within an online community can be successfully established through effective teaching presence. "Engendering an atmosphere of trust, open communication and group cohesion" contributes to make collaborative learning meaningful (Garrison et al., 2010, p. 35). Discussions around the relationship between teaching presence and social presence can relate to Moore's theory of transactional distance (1989) and Holmberg's theory of communication (1995). Applying this to the discussion around the relationships between the teaching and social presence, the role of effective teaching presence supports social interaction through providing an appropriate space for purposeful discourse and meaningful learning. Garrison (2011) points out that this is successfully achieved through clear learning guidelines and structured learning activities that promote group cohesion. When the online teacher fails to acknowledge social presence, there is the risk that learning in isolation will permeate the experience. Garrison and Cleveland-Innes (2005, p. 134) discuss:

> Some have argued that in higher education, it is valuable an even necessary to create a community of inquiry where interaction and reflection are sustained: where ideas can be explored and critiqued; and where the process of critical inquiry can be scaffolded and modelled. Interaction in such an environment goes beyond social interaction and simple exchange of information.

The final relationship focuses on the relationship between the cognitive and the social presence. Social interaction is central to learning experiences and educational contexts (Garrison & Cleveland-Innes, 2005). Indeed, it is noted that the emergences

of technologies have afforded online teachers to provide democratic approaches to learning. Social interaction is necessary to that relationships are established and a climate is created that will provide an appropriate space for a meaningful educational experience (Garrison & Cleveland-Innes, 2005). However, despite the emphasis on social interaction in learning, social presence does not directly impact or create cognitive presence or meaningful learning experiences. Relaying back to the earlier discussion, a strong teaching presence within the community of inquiry "must be available, either from the facilitator or the other students" for an effective transition to occur from social to cognitive presence (Garrison & Cleveland-Innes, 2005, p. 143). Participants need guidance and clear direction throughout the stages of learning. Without explicit direction, students can fail to collaborate, and become preoccupied with offering opinions and contributions that do not reflect or connect to the learning activities or topics. Therefore, it is advised that social presence is "a very helpful precondition but "interaction for cognitive success (i.e., high levels of learning) depends on structure (i.e., design) and leadership (i.e., facilitation and direction)" (Garrison & Cleveland-Innes, 2005, p. 144). The teaching presence provides the bridge that fuses effective social interaction and deep and meaningful learning with the online context. Garrison and Cleveland-Innes (2005, p. 144) discuss:

> Quality interaction and discourse for deep and meaningful learning must consider the confluence of social, cognitive and teaching presence – that is, interaction among ideas, students, and the teacher. Teaching presence provides the structure (design) and leadership (facilitation/direction) to establish social and cognitive presence (i.e., community of inquiry).

Therefore, it is clear that all three presences are important in online teaching and learning. The literature has also noted that the knowledge of relationship across the three presences also plays a key role in online teaching and learning (Garrison et al., 2010a; Garrison, 2011).

2.8. Blended Learning Approaches within Communities of Inquiry

Garrison (2011) points out that the CoI approach is well suited to blended learning. The CoI framework can help manage the complexities which can occur in blended learning models. There are extensive volumes of literature that focuses on the theoretical and conceptual discussions around blended learning. In *The Handbook of Blended Learning: Global Perspectives, Local Design*, Graham (2006) notes that there are many definitions in relation to blended learning. However, common themes that emerge across the definitions include: combining delivery media, the combination of teaching methods, and the combination of online and face-to-face instruction. Garrison and Vaughan (2008, p. 148) define blended learning as "the organic integration of thoughtfully selected and complementary face-to-face and online approaches and technologies".

There is a need to adopt blended learning approaches for the purpose of serving an educational goal or purpose. Blended learning can provide programme or module designers with a range of possibilities to make learning attractive and meaningful.

> Simply adding optional or supplemental online activities to what is in essence a face-to-face learning experience does not meet the threshold of a blended learning design. The key is to integrate face-to-face and online written communication in such a way that the strengths of each are fused so that the result is greater than the best of single constituting elements. (Garrison, 2011, p. 76)

Careful thinking should be put into planning blended learning. Furthermore, the design of blended learning should be guided by the educational aims or purpose. With the emergence of Web 2.0 technologies, a new form of blended learning has occurred – the blending of asynchronous and synchronous learning. Blending synchronous and asynchronous learning should also be guided by educational aims and purpose. "Blending asynchronous and synchronous communication in in an online environment has a significant advantage. In particular, the immediacy of synchronous verbal

communication can enhance the development of a sense of community" (Garrison, 2011, p. 77). Therefore, the 'immediacy' of such communication can enable the participants to establish social presence and form group cohesion through the process of open communication. Garrison (2011) indicates that there have been various studies that have explored blended learning approaches within communities of inquiry. There are two studies that merit discussion and are appropriate to the design and facilitation of LÍNTE. These two studies focused on the application of blending learning approaches in facilitating the stages of practical inquiry. First, a study conducted by Vaughan and Garrison (2005) found that stages of practical inquiry were best facilitated when there were different models of communication available. In relation to the triggering phase, it was noted that a higher percentage of triggering events occurred in face-to-face environments. The exploration phase was effective within the online (asynchronous) and face-to-face environment. However, the resolution phase was non-existent in the online and face-to-face environment (Vaughan & Garrison, 2005). The study also echoes previous findings within the discussion around cognitive presence. Vaughan and Garrison (2005) emphasise the role of the online teacher in guiding students through the stages of practical inquiry. The second study, conducted by Akyol and Garrison (2011), made similar findings to Vaughan and Garrison (2005). The study employed a range of methods including transcript analysis and interviews and found that face-to-face discussions were more effective in the triggering phase within practical inquiry. Furthermore, the use of a face-to-face environment allowed for the development of group cohesion within the community.

> Another difference that is worth noting is the higher frequency of activity at the integration phase in the blended compared with the online course. The explanation for this difference is that students in the blended course started weekly discussions in face-to-face meetings. Therefore, much of the triggering events and exploration may have occurred during the face-to-face portion of the blended course. Taken together, these differences suggest that the blended

> course format may have provided better conditions for higher-order thinking. (Akyol & Garrison, 2011, p. 245)

The two studies conclude that blended learning approaches can facilitate effective collaboration through practical inquiry. One significant limitation though is around the use of the term 'face-to-face'. This may be perceived as on-site interaction where students are sitting in a traditional classroom. There is a dearth of literature that particularly focuses on the blending of online learning designs and the facilitation of practical inquiry. Although the context may be different for LÍNTE, which will blend online learning designs (synchronous and asynchronous), it will be interesting to examine if the findings from the studies above (Vaughan & Garrison, 2005; Akyol & Garrison, 2011) relate to the empirical investigation which will feature later in the study.

In the teacher education arena, teacher educators have also begun to employ blended learning approaches in relation to the delivery of teacher education. Collopy and Arnold (2009, p. 85) point out that teacher educators "have viewed the assets of online learning as a potential solution to meet the seemingly ever increasing state-and accreditation-mandated course content and competencies". In relation to a study of pre-service teachers' engagement in online and blended learning, Collopy and Arnold (2009) explored the use of blended and online learning in undergraduate teacher education modules. The authors conducted a study which focused on two groups studying the same module. One group was taught the module through blended learning – online and on-site/campus. The other group was taught the module online. Collopy and Arnold (2009) do not refer to the CoI framework but linkages are evident. Within the blended and online teacher education modules, Collopy and Arnold (2009) found that the use of blended and online technologies in the teacher education modules resulted in the candidates feeling competent and comfortable in using such approaches

within their own practice. In using online approaches, they note: "The hope is that these future teacher candidates will be able to transfer what they have learned and practiced in the modules to their professional lives as educators" (Collopy & Arnold, 2009, p. 97). The use of online technologies afforded student teachers the opportunity with a space to connect with other student teachers and provide an appropriate space for students to question each other and discuss emerging topics and issues. However, Collopy and Arnold (2009) found that blended learning proved to be more attractive to the students. The group, who engaged in blended learning, reported a higher level of satisfaction in relation to how their teams functioned than the online group. The research findings also reported that higher levels of learning occurred than those in the online only group (Collopy & Arnold, 2009). Furthermore, the students in the online learning group felt more isolated and alone. However, this finding suggests that transactional issues still prevail online. The feelings of isolation could directly relate to independent coursework. Collopy and Arnold (2009, p. 96) point out that the feelings of isolation occurred for student teachers who "worked completely alone in the online space". In relation to the employment of blended learning approaches in teacher education, Collopy and Arnold (2009) caution that such approaches may place additional stress on student teachers. Teacher educators need to be mindful when using online resources that the content does become overloaded resulting in the students becoming overwhelmed. Garrison (2011) also cautions content-loaded direct instruction. Online educators need to be mindful of the different level of competencies amongst learners. Collopy and Arnold (2009, p. 99) argue that teacher educators need to ensure that student teachers "have familiarity and comfort level with a technology based delivery systems". Finally, Ko and Rossen (2008) as cited by Collopy and Arnold (2009, p. 99) suggest that teacher educators need to be "well versed in how to

teach successfully in an online space as well as how to facilitate teamwork in an online environment". Therefore, theoretical frameworks such as the CoI framework can support teacher educators as they endeavor to create online environments that support constructivist collaborative learning approaches.

2.9. Employing Instructional Technologies within Communities of Inquiry

This penultimate section in this chapter focuses exclusively on the importance of instructional technologies in supporting the learning experience within the community of inquiry. The application of instructional technologies is paramount in communities of inquiry as they improve the "effectiveness of the educational transaction" and influence "the display, the interaction, the cost, and the design of the educational outcomes" (Garrison, 2011, p. 65). In his discussion around perspectives of instructional technologies, Garrison (2011, p. 65) explains:

> Historically, the word technology referred to the systematic approach to a craft. This original emphasis on systematic treatment and implied adherence to tenants of science has inspired the field of instructional technology to embrace a scientific view of its activities. The more common understanding of technology, however, is that it is a tool as opposed to a systematic process or technique.

Garrison posits that technology should be distinguished as a tool in the educational context that provides information and supports the establishment and facilitation of communities. Therefore, the importance of technological tools should not be undervalued as there is a dependence on these tools for enhancing discourse and reflection within communities. The emergence of the World Wide Web in the 1990s and the innovations of new technologies arising from the Internet have enabled online educators and teachers to downsize depersonalised isolated learning. Therefore, the emergence of technologies has provided online educators with the opportunity to transform practice and models of learning (Mason & Rennie, 2008). The emergence

of the Internet and online learning tools has enabled higher education to transform pedagogy and practice in online education.

2.10. Conclusion

In this chapter, I have traced the development of distance education over two key eras –the industrial era and the post-industrial era. In doing this, I have identified the developments which have led to the application of online learning with distance education. Focusing on theories of 'distance' and 'communication', posited by seminal theorists in the field, the importance of (a) reducing transactional distance and (b) the emphasis on open two-way communication in promoting effective online learning were discussed. The chapter then proceeded to explore the Community of Inquiry framework. The three elements (social presence, cognitive presence, and teaching presence) were examined in detail. In relation to teaching presence, the elements that constitute effective teaching presence were outlined. There was a focus on the indicators that students perceived to be important in relation to effective teaching presence. Existing theoretical frameworks that inform the cognitive presence element were examined. In addition, the Practical Inquiry model was explored. The discussion around social presence dealt with practical suggestions in promoting 'group cohesion'. The section dealt with the need to shift from personal to purposeful relationships in online communities of inquiry. The relationships between the three elements were identified. While certain studies have focused on the three presences in a separate manner (Garrison & Arbaugh, 2007; Arbaugh, 2007), it was argued that the three elements do not exist in isolation (Shea & Bidjerano, 2009). Finally, the advantages in using blended learning approaches (synchronous and asynchronous) were examined and the importance of careful selection of technological tools in facilitating the CoI was made apparent. Coupled with the discussion around online

learning, the application of online learning approaches in previous teacher education studies was also explored.

The next chapter, Chapter Three, focuses on teacher education, with an in-depth focus on key issues in learning to teach, experiential learning and the generation of knowledge through practice, reflection, and enquiry. Key findings and common themes that emerge across this chapter and the next chapter will contribute in forming theoretical principles, which will underpin the design, and evaluation of LÍNTE. These theoretical principles will be presented in Chapter Four.

CHAPTER THREE: THEORETICAL FRAMEWORKS IN LEARNING TO TEACH

The previous chapter within the literature review examined the nature of distance learning and the developments of theory, research and practice in relation to distance learning online. However, as noted, the review of literature generally focused around learning in a broad higher-online education context. The community of inquiry theorists promote their model as transferrable across a range of disciplines (Garrison, 2011). Previously discussed in chapter one, this study will explore how an online intervention, developed and designed through existing theory and research, will support student teachers during their practicum element of an initial teacher education consecutive programme. In the previous chapter, I discussed developments in teacher education in relation to distance education and online learning. This chapter offers a more in-depth focus into teacher education and the learning to teach experience.

The chapter begins with a description of the current teacher education landscape. The chapter then examines the triad of challenges in learning to teach (Darling-Hammond, 2006). From an extensive review of literature and research, the triad of challenges captures the recurring perennial challenges that are encountered in teacher learning. This is drawn neatly together by Darling-Hammond (2006) who has engaged in extensive international research and who is widely published in teacher education. Three major learning principles are identified, that are linked with this triad of challenges. The 'adaptive expertise' concept is then discussed and why it has come to be recognised as the "gold standard for becoming a professional" in teacher education (Hammerness et al., 2005, p. 36). The chapter concludes with the presentation of two theoretical frameworks that explore teacher learning, practice and knowledge generation; the ALACT model, which is a component of *Realistic Teacher Education*

(Korthagen, 2001a, 2012, 2013) and *Inquiry as Stance* (Cochran-Smith & Lytle, 1999, 2009).

3.1. The Current Teacher Education Landscape

The teacher education field has experienced major transformations over the past five decades. Historically, teacher education was primarily facilitated through apprenticeship approaches. In the 19th and 20th centuries, the developments in psychology and pedagogy resulted in a drive by academics and policy makers to disseminate new knowledge to teachers, which resulted in teacher education becoming part of the university model (Korthagen, 2001a). The second half of the 20th century saw teacher education becoming preoccupied with 'good' teaching, where the success of teaching was measured by the application of knowledge through skills. This technical exercise resulted in a preoccupation with the notion 'what works' in teaching (Korthagen, 2012). The last decade has seen an increase in accountability, where there has been an increase in pressures on teachers to meet specified targets (Cochran-Smith, 2006; Conway & Murphy, 2013). There has been a policy agenda, globally, to drive practice and curriculum so that economic output can be maximised (Cochran-Smith & Lytle, 2009). Governments, policy makers, and employer groups have emphasised the performance of students in supranational performance assessments such as PISA which has driven an accountability regime across the global landscape (Blanchard, 2003; Conway & Murphy, 2013;). Cochran-Smith and Lytle (2009, p. 8) argue:

> Policymakers, pundits, and others demand that the schools produce students who the array of knowledge and skills needed to thrive in the new "knowledge society" wherein low-level work is done by machines or outsourced to the lowest bidder, and "developed" nations compete for high-paying jobs that require sophisticated intellectual skills and strategies. Consistent with this view is the assumption that the primary purpose of education is to produce a workforce that can meet the demands of the competitive global market and preserve-or, better yet, boost – the nation's place in that market.

Scholars have adopted a critical stance towards this global results-driven agenda in education. There is a concern that teaching has become concerned with 'technical rationality' (Dunne, 2005, 2011; Korthagen, 2012; O'Brien, 2012). Technical rationality can be defined as the employment of specific methods and strategies in education to produce predetermined outcomes (Biesta, 2007; Dunne, 2005; Korthagen, 2012). This "practitioner-proof mode of practice" results in the teacher employing specific criteria to achieve predetermined goals (Dunne, 2011, p. 8). The employment of technical teaching has become attractive to schools which are pressurised into achieving desired ends. Teaching becomes simply a 'technical exercise' in which teachers must possess specific competencies necessary to provide desired results (Parker, 2007). In supporting this argument, Cochran-Smith and Lytle (2009, p. 9) note:

> The accountability emphasis is reflected in the recurring language of outcomes, results, effectiveness, evidence, monitoring systems, test scores, adequate yearly progress, and bottom lines. Words like these have been used so consistently in everyday discourse and at every level of schooling that they are now fully normalized and neutralized. This is exacerbated, we suspect, by the fact that many educators do not know about or do not remember a time without high-stakes accountability.

From the above perspective, there can be an assumption that policy makers, at a macro-level, have driven teaching into a process where knowledge is merely transmitted to the learner. Furthermore, effective learning is perceived as the demonstration of knowledge in high stakes assessment performances. Alongside the preoccupation with accountability in schools, the ripple effect of the accountability agenda in policy development and reform has impacted teacher education provision. Such provision has been influenced by local universities quality assurance committees and the national quality assurance body (the Quality and Qualifications Ireland), the influence on mandating course and module learning outcomes as espoused in the

Bologna Process, and the policy directives emanating from the Teaching Council's accreditation process (2011b). The move towards a more accountable milieu is open to argument and discussion (Conway & Murphy, 2013). Where LÍNTE, a hybrid online space, fits in this accountability agenda remains to be examined.

3.2. The Triad of Challenges in Learning to Teach

In developing an intervention that sets out to support student teachers' learning during a school placement experience, it is important that an understanding of the complexities and challenges that arise in classrooms are identified. The knowledge of recurring complexities and challenges that arise in the classroom can allow the HEI tutors and cooperating tutors to determine, and subsequently address and support students as they encounter such challenges. Arising from a meta-analysis of research, Darling-Hammond (2006) describes three recurring or perennial challenges: (1) the complexities of teaching, (2) the apprenticeship of observation and (3) the challenges of enactment.

3.2.1. Complexities in the Practice of Teaching

There is recognition in the literature that learning to teach can be problematic as teaching is complex and demanding (Darling-Hammond, 2006). Drawing in on the work of Magdalene Lampert (2001), Darling-Hammond (2006) suggests that there are a range of complex areas in learning to teach. First, teachers must deal with changes in their practice. Such changes may include a change in the learning needs of the children, as well as changes that may arise throughout the day. Second, teachers must address multiple goals when teaching. Teachers need to meet curriculum goals and targets and more importantly, teachers need to meet the diverse learning needs of the children in their classroom. Teachers need to be cognisant of this in planning and in teaching. The final complexity relates to the challenge of integrating "multiple kinds

of knowledge" (Darling-Hammond, 2006, p. 39). Teachers are required to integrate knowledge of child development, pedagogical content knowledge, appropriate organisational approaches and strategies in planning and in teaching, knowledge of social and cultural diversity, and knowledge of "their particular students' interests, needs, and strengths" (p. 39). Within initial teacher education, there is a need for student teachers to appreciate and recognise these complexities that may arise in teaching (Darling-Hammond, 2006).

3.2.2. Apprenticeship of Observation

Student teachers' prior conceptions, formed before entering initial teacher education, are also regarded as a challenge that must be addressed in learning to teach. Prior to engaging in initial teacher education, the student has experienced teaching over an extensive period of time. Although Darling-Hammond (2006) argues that this can be a motivating factor, it can also prove to be problematic for the student teacher in embarking in studies around teaching. Lortie (1975, p. 62) coined the term 'apprenticeship of observation' where students have formed concepts about teaching. However, this apprenticeship can inhibit the student in experiencing what happens behind the scenes. For example, the student does not see the depth of planning that the teacher engages in, the teacher's reflection, analysis, and evaluation of teaching and learning for the purpose of informing future planning. Furthermore, students can imitate the practice of teachers instead of analysing the practice (Darling-Hammond, 2006; Lortie, 1975; Sugrue, 1997). Experiential or observational learning, without analysis, limits the student in comprehending the factors that lead to good teaching. As discussed above, the student does not experience the level of input put into planning and reflection. The term 'good teaching' in the observational context is formulated and based on the deployment of specific skills. This can lead the student

teacher to formulate opinions that effective teaching is simply improved and developed through the acquisition of specific skills. Students entering teacher education programmes may regard teaching as a simplistic practice, have an attitude that he or she can already teach, and that they merely need certain techniques and skills to enhance this (Darling-Hammond, 2006; Lortie, 1975). The development of lay theories, formulated during the student teacher's apprenticeship of observation, require attention in initial teacher education (Furlong, 2012). The tenacity and influential nature of such lay theories can influence or impinge progressive research-based teaching methodologies espoused in the students' initial teacher education. Failing to confront these creates a risk, whereby the student may revert to approaches of a more 'traditionalist' nature, influenced by cultural archetype of authority and control in teaching, and re-enacting an approach to teaching that was part of the students' own experience of schooling (Sugrue, 1997).

3.2.3. The Problem of Enactment

The third challenge is related to the problem of enactment. Darling-Hammond (2006, p. 37) explains: "This problem often surfaces in complaints that teacher education is too theoretical, by which teachers often mean they have not learned about concrete tools and practices that let them put into action the ideas they have encountered". Student teachers need to understand how children learn and what strategies help them. In addition, the student needs to learn about presenting information, leading discussions, organising groups, dealing with challenging behaviours, using assessment strategies, planning for learning, and responding to questions. The 'apprenticeship of observation' has a clear link to the problem of enactment. Darling-Hammond (2006) points out that students entering initial teacher

education have prior knowledge of the concepts that teacher educators encourage in their programmes.

> Teacher educators hope to help new teachers develop practical skills tied to a theoretically based understanding of these ideas, but preservice teachers already have clear ideas about these concepts that may interfere with or contradict what they learn in their preservice programme. (Darling-Hammond, 2006, p. 38)

Darling-Hammond explains this point further by using an example of group work. Student teachers who have participated in group work in their own 'lengthy schooling' may have a strong belief about cooperative learning: "whether they experienced unguided, poorly planned group work or well-designed collaborative tasks, they may not know what elements made the experience more or less productive" (2006, p. 38). This may alter the student teacher's view of the concept. The student could have a different vision of teaching from what the teacher education programme hopes to provide. In addition to this, Darling-Hammond (2006, p. 38) points out that limited school experience can also have a negative impact on enactment. She notes: "This is particularly likely if they have no chance to engage in a strong clinical experience where critical concepts are modelled in practice and deconstructed for further study and understanding" (p. 38). As Figure 3.1 illustrates, interrelationships are evident across the triad of challenges. Teacher education must address and acknowledge each challenge. The forthcoming section presents approaches and principles which can enable teacher educators to address and build on these challenges.

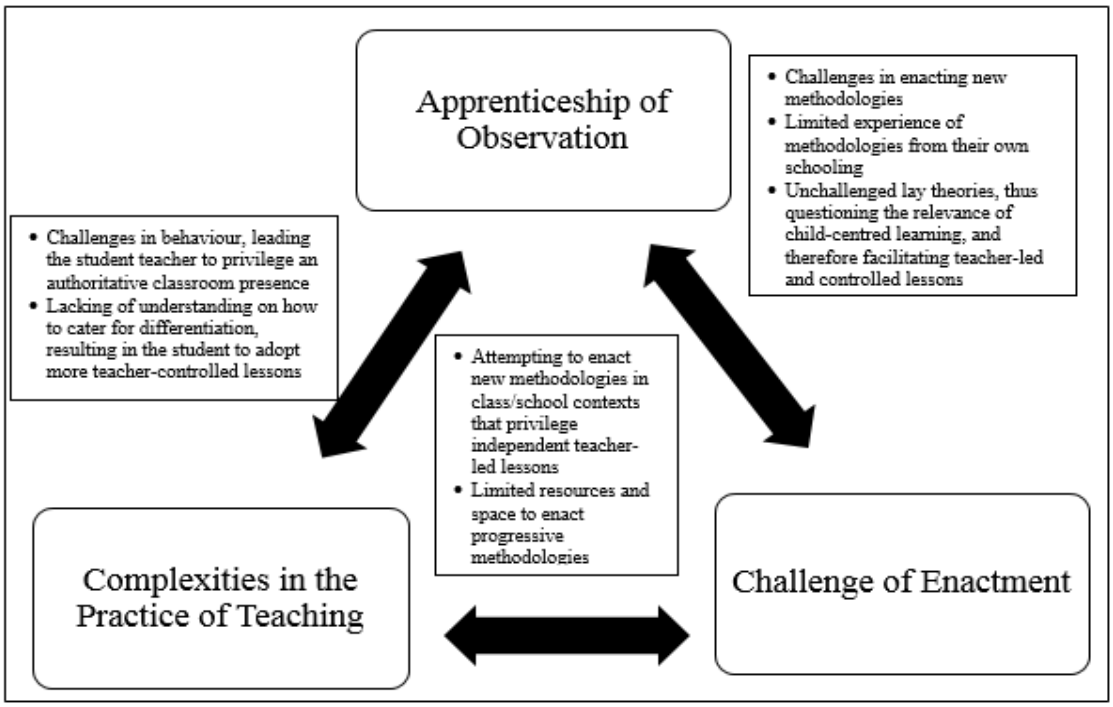

Figure. 3.1. The triad of challenges in learning to teaching (Darling-Hammond, 2006)

3.2.4. Building on the Triad of Challenges

When teacher educators acknowledge the triad of challenges in learning to teach, learning experiences can be developed to address these issues. Donovan and Bransford (2005) and Darling-Hammond (2006) identify three fundamental learning principles, which build on the triad of challenges:

1) Students come to classrooms with prior knowledge. Teacher educators need to connect with prior knowledge and consider what students already believe in relation to planning, teaching, and learning. Failing to acknowledge this can result in students becoming disconnected. "If what they know and believe is not engaged, learners may fail to grasp the new concepts and information that are taught, or they may learn them for the purposes of a test but not be able to apply them elsewhere" (Darling-Hammond, 2006, p. 9);
2) Students need to be provided with the opportunity to organise and apply their knowledge and must understand how ideas about teaching and learning connect

and integrate. Teacher educators need to provide student teachers with the opportunity to engage in problem-based and enquiry-based learning and provide students with the opportunity to apply and connect their knowledge. "Memorizing is not enough. To develop competence, they must understand how facts and ideas together within a conceptual framework, and they must apply what they are learning" (Darling-Hammond, 2006, p. 10). The teacher educator should scaffold and support these learning experiences;

3) Focusing on teacher education pedagogy, there needs to be emphasis placed on modelling and coaching so that the student can be supported in taking control of his or her own learning. Approaches such as the prediction of outcomes, explanations, identifying areas of confusion or concern, activating background knowledge, and making links to other areas should be incorporated into teacher education pedagogy.

3.2.5. Addressing Students' Preconceptions

Student teachers enter teacher education programmes with existing preconceptions about teaching (Hammerness et al., 2005; Lortie, 1975). Loughran and Russell (2007, p. 218) point out that student teachers formulate "an enduring image of what teaching should look like. Once developed by observation, this image becomes very difficult to shift. Consequently, teaching tends to look easy. What the skilful teacher does to encourage quality learning is then not easily recognised or understood". These preconceptions need to be acknowledged. Teacher educators cannot ignore or prevent student teachers entering initial teacher education with assumptions and beliefs that have been acquired through years of observation (Darling-Hammond, 2006; Furlong, 2012). Looking at the 'apprenticeship of observation' through a constructivist lens, students construct understandings about

teaching through existing experiences (Korthagen, 2001a). In examining preconceptions in relation to learning to teach, Hammerness et al. (2005, p. 369) identify that pre-service teachers can enter teacher education programmes with a preconception that (a) learning is "simple and rather mechanistic" and (b) children acquire this knowledge through listening, reading, and rote-learning. "Preconceptions that teaching is only about 'transmission' can make it difficult for teacher educators who seek to prepare teachers to teach in ways that are more compatible with what we know about how people learn" (Hammerness et al., 2005, p. 369). Media influences, such as the portrayal of teaching in film and media, also shape preconceptions (Korthagen, 2012). "These entering beliefs are more nuanced-and extend across a wide range of possibilities-than many people had imagined" (Hammerness et al., 2005, p. 369).

A recurring theme across the literature highlights that teacher educators should address students' preconceptions (Darling-Hammond, 2006; Hammerness et al., 2005; Loughran, 2006; Korthagen & Wubbels, 2001). Loughran (2006, p. 115) explains:

> With a recognition that beliefs and knowledge are so closely tied to one another, students of teaching need opportunities through which they might begin to purposefully confront, define, redefine and realign their practices and beliefs for, at the heart of the development of their professional knowledge, is a need for articulation. However, if such a process is to be helpful in informing oneself about oneself, then teacher educators need to be reminded of implicit advice on learning described through the axiom: Go slow to go fast.

Ball and Cohen (1999) argue that student teachers need to engage in understanding subject matter in ways that are different from those they learned in their own experience of schooling. In relation to subject areas, student teachers need to understand perspectives on how ideas and approaches have evolved and connect with other subject areas. Furthermore, learning about subject matter does not merely suffice. Student teachers need to engage in learning about children, the interests of

children, how children learn, the difficulties children experience, how to listen to and interpret children's responses, and how children connect with subject areas. Teachers need to become aware of cultural differences. "Because teachers often teach children who come from backgrounds different from their own, they would need to become acquainted with cultural differences, including differences in language, class, family, and community" (Ball & Cohen, 1999, p. 8). Teachers need to be able to have a thorough understanding of pedagogy and need to engage learners effectively and response to the needs of the students (Ball & Cohen, 1999). Teacher educators are challenged to "do justice to each component as they try to weave together a comprehensive experience that will help candidates create strong bridges between them" (Darling-Hammond, 2006, p. 194). In exploring existing programmes, Graber (1996) refers to high impact teacher education programmes where courses are designed to provide a safe environment for students to examine their assumptions around teaching and learning with teacher education. Therefore, appropriate safe environments need to be established where student teachers can share their beliefs, problems, and concerns with teacher educators. Finally, Darling-Hammond (2006) refers to the role of teacher educators in 'practicing what one preaches' and in creating a 'new apprenticeship of observation' for student teachers. "To overcome this powerfully entrenched experience, these programs not only 'talk-the-talk' – supporting more learning-centred and personalized teaching-but they also 'walk the walk' (adopting these methods and attitudes in their work with student teachers)" (Darling-Hammond, 2006, p. 194).

3.2.6. Learning for Enactment

When preconceptions are addressed, the next challenge for student teachers is "putting intentions into action" while learning "to weigh difficult dilemmas and to

make and implement decisions on the fly" (Hammerness et al., 2005, p. 370). Ball & Cohen (1999, p. 11) assert:

> Despite the significance of the knowledge that we discussed above, no amount of such knowledge can fully prescribe appropriate or wise practice… the knowledge of subject matter, learning, learners, and pedagogy is essential territory of teachers' work if they are to work as reformers imagine, but such knowledge does not offer clear guidance, for teaching of the sort that reformers advocate requires that teachers respond to student's efforts to make sense of material. To do so, teachers additionally need to learn how to investigate that students are doing and thinking, and how instruction has been understood, as classes unfold.

Hammerness et al. (2005, p. 373) discuss that 'case-based' and 'problem-based' teaching and learning experiences have proved to "better prepare people for action" where "the essence of the approach is to organize instruction around actual situations that students are likely to encounter later in their careers or perhaps have already encountered". Hammerness et al. (2005) point out that teaching involves multiple things at once, and catering for multiple need, which makes teaching much more complex than what other professionals do. The ability to make decisions around effective teaching occurs in the practice of teaching (Ball & Cohen, 1999; Hammerness et al., 2005). In looking at practical considerations, Darling-Hammond (2006) suggests that teacher educators should take opportunities to connect knowledge with school placement experience.

Structured conversations around placement allow students to discuss teaching and learning in a range of classrooms. In addition to this, placement-oriented assignments can focus on pedagogies in specific subject areas or focus on areas such as motivation or management issues (Darling-Hammond, 2006). Hammerness et al. (2005, p. 375) point out:

> During both the preservice period and initial years in the field, new teachers need support in interpreting their experiences and expanding their repertoire, so that they can continue to learn how to become effective rather than infer the wrong lessons from their early attempts at teaching…when a well supervised

> student teaching experience precedes or is conducted jointly with coursework, students appear more able to connect theoretical learning to practicum become more comfortable with the process of learning to teach, and are more able to enact what they learn in practice.

Finally, the establishment of learning communities can also equip teachers with the ability to overcome challenges around enactment. Lieberman and Miller (2007) and Lieberman and Wood (2002) suggest that learning communities can provide a space where strategies and approaches can be shared, where participants can try out such approaches, and refine such approaches.

3.2.7. Promoting Metacognition

The challenges and complexities associated with teaching can make it a demanding experience for the student teacher. The concept of metacognition plays an extremely important part in allowing teachers to manage the complexities that he or she faces in classrooms (Hammerness et al., 2005). Metacognition is defined by Graham and Phelps (2003, p. 5) as the knowledge "concerning one's own cognitive process" i.e. knowing-about-knowing. The "monitoring of these processes in the pursuit of goals" is central to metacognition – the knowledge of when and how to use specific strategies in learning and in problem solving (p. 5). Promoting metacognition into learning to teach can be a challenging task. For example, Lin, Schwartz and Hatano (2005, p. 245) argue: "Applications of metacognition fall short when it comes to the challenges teachers often face". Previously, it was highlighted in the literature that formulaic approaches to teaching and learning are no longer 'fit-for-purpose' in contemporary classrooms today. Lin et al. (2005, p. 245) point out: "Many teachers tell us that each class is quite different, and each presents its own challenges and charms". Teachers have to confront variable situations and a 'one size fits all' model will prove ineffective.

> Effective teachers particularly need to be metacognitive about their work. The more they learn about teaching and learning the more accurately they can reflect on what they are doing well and on what needs to be improved. For example, beginning teachers frequently focus on their teaching practices rather than on what their students are learning. They need to be able to figure out what they do and do not yet understand about how their students are performing and what to do about it. They also need to be able to ask themselves and others questions to guide their learning and decision making. (Hammerness et al., 2005, p. 377)

Lin et al. (2005) describe an approach entitled 'Critical Event Instruction' that was developed to enhance metacognition in teaching; to "prepare student teachers for common events that are likely to appear in the course of their teaching" and "to help them see the novelty in these familiar events so that they do not apply assumptions of routine metacognition to teaching situations where adaptive metacognition is more appropriate" (p. 250). Through recurrent problem situations, student teachers are encouraged to look at "differentiated solutions through reflection and adaption", and to recognise that "all situations do not have a one-size-fits-all-solution" (p. 250). Lin et al. (2005) designed an environment, the 'Critical-Event Based Learning Environment' (CEBLE), and used a range of multimedia tools in designing and facilitating this intervention. The learning cycle for CEBLE was sequenced in the following order: (1) meeting the event through examining video vignettes, (2) generating ideas and perspectives through questioning and listening to the 'multiple perspectives' of participants, (3) acting on these perspectives through reflecting on one's own needs, (4) reflecting on the effectiveness of the solutions, and (5) sharing their perspectives with other members in the community. Lin et al. (2005) advise teacher educators to provide a context where participants can "observe other's problem solving" and "that the observer can see the problem from the perspective of the solver's metacognition" (p. 253). Korthagen (2004, 2013) has suggested that the application of the ALACT approach to facilitating reflection can prove beneficial in facilitating a reflective process. However, in exploring the quality of reflection, the

'onion model' can be more useful in coming to understand student teachers' reflections and beliefs. Korthagen (2013) argues that the elements of this model are interrelated.

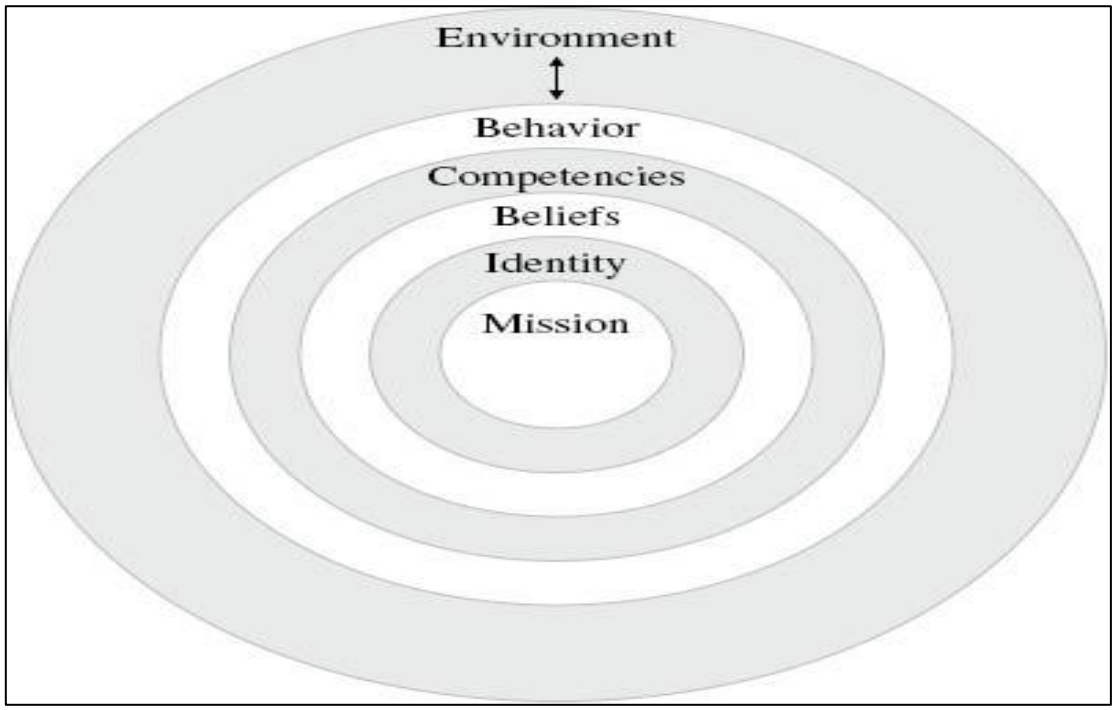

Figure 3.2. The 'onion' model (Korthagen, 2004, 2013)

3.2.8. Developing 'Adaptive Expertise' in Learning to Teach

Darling-Hammond (2006) argues that prescriptive paths in learning to teach can result in the novice teacher adopting formulaic approaches to teaching. As diversity in learning is now common in contemporary classrooms, formulaic prescriptive approaches to teaching and learning cannot address or cater for such diversity in schools.

> Teaching that aims at deep learning, not merely coverage of material, requires sophisticated judgement about how and what students are learning, what gaps in their understanding need to be addressed, what experiences will allow them to connect what they know to what they need to know, and what instructional adaptions can ensure that they reach common goals. (Darling-Hammond, 2006, p. 10)

If teaching employs one singular approach, then children who are at different developmental stages will experience "unequal achievement" (Darling-Hammond, 2006, p. 10). Teachers need to adopt a range of approaches and teaching strategies, and expand their own knowledge (from teaching and for teaching), to help children achieve similar outcomes in their learning (Darling-Hammond, 2006). Therefore, teachers need to be "adaptive experts" – they need to demonstrate the ability to address problems as they arise where prescriptive procedures or rules cannot be applied to the problem (Darling-Hammond, 2006; Hammerness et al., 2005). The development of 'adaptive expertise' provides the appropriate 'gold standard' for the student teacher's professional learning (Hammerness et al., 2005, p. 360). Lin, Schwartz and Bransford (2007, p. 70) explain:

> The acquisition of adaptive expertise is fostered by educational environments that support active exploration through three tiers. The first tier highlights the variability inherent to the task environment. The second tier highlights the variability permitted in the individual's procedural application. The final tier highlights the variability of explanation permitted by the culture, such that people can share and discuss their different understandings.

According to Darling-Hammond (2006, p. 11) adaptive experts "should know how to continuously expand their expertise, restructuring their knowledge and competencies to meet new challenges". Preparing teachers who can learn "from teaching, as well as learning for teaching" is a "key challenge for teacher educators today". There are two dimensions in developing adaptive expertise –efficiency and innovation. In relation to efficiency, this involves the ability to perform tasks without having to "devote too many attentional resources to achieve them" (Hammerness et al., 2005, p. 360). The efficiency dimension in adaptive expertise involves the teacher performing multiple activities without having to stop to think about what he or she is doing. Although Hammerness et al. (2005) indicate this can be challenging and emotionally demanding for the teacher and can spur feelings of doubt and frustration, this involves the teacher

developing expertise to be able to move beyond existing routines and re-think new ideas, practices, principles, and values to change or alter current practice. Efficiency and innovations are assumed to be "complementary" of each other.

> They are complementary when appropriate levels of efficiency make room for innovation. For example, assume that a student in a classroom generates an answer to a math word problem that is novel for a particular teacher. If the teacher is able efficiently to predict and understand the range of other answers given by students in the class, it becomes possible to think creatively about the answer and figure how and why the student might have generated it. (Hammerness et al., 2005, p. 362)

Recently, there have been tensions around scripted teaching approaches and innovation in teaching. Scripted approaches to teaching continue to be practiced (Sawyer, 2004). The aim of scripted teaching is "to reduce variability in implementation and produce outcomes that are better than what could be expected from a significant subset of teachers if they were left to their own devices" (Hammerness et al., 2005, p. 363). Even though scripted teaching approaches have resulted in improvements in test scores (Sawyer, 2004), critics continue to argue that approaches in teaching need to be varied to meet the needs of the learner (Ball & Cohen, 1999; Hammerness et al., 2005; Sawyer, 2004).

To address the opposing viewpoint towards teaching, Sawyer (2004) presents an appropriate alternative to scripted teaching involving 'disciplined improvisation'. "The improvisation metaphor suggests a general framework within which scripted teaching and teaching for deeper understanding can be reconciled" (Sawyer, 2004, p. 16). Disciplined improvisation acknowledges the need for curriculum and recognises that there are set plans and goals for each lesson. "Disciplined improvisation provides us with a way to conceptualize creative teaching within curriculum structures" (Sawyer, 2004, p. 16). Therefore, adaptive expertise can be developed in classrooms that follow clear curriculum guidelines and goals where the teacher has the flexibility

to improvise and be flexible when opportunities present and regularly shift between approaches in relation to the unique needs of the class (Hammerness et al., 2005; Sawyer, 2004).

In recognising and addressing the triad of challenges in learning to teach is an important element of this study. The identification of such challenges can provide the LÍNTE tutors to be equipped with a conceptual knowledge base to address and identify challenges that might arise for students during placement. Asking students to identify challenges that emerge in practice, can be a challenging task for teacher educators and student teachers. Therefore, the next section focuses on the importance of developing reflective spaces, aligned with the practicum, that are safe, empathetic, supportive and affirmative.

3.3. Toward a Pedagogy of Experiential Learning and Reflection

Korthagen and Wubbels (2001, p. 43) argue that "practical experiences can be a viable avenue in teacher education to help integrate theoretical notions into teacher actions and to help take into account both types of human information processing". Furthermore, they define experiential learning as "the acquisition of knowledge, attitudes and skills with respect to oneself and one's environment by means of one's own observation and participation in situations, and by systematically thinking about supervision" (p. 43). Experiential learning models can be designed (Kolb & Fry, 1979) that promote concrete experience, observation, and experimentation. "The experiential learning theory has provided the basis for a framework to link whom we teach, how we teach, and for what purposes we teach in a teaching-learning situation" (Kolb & Fry, 1979, p. 90). However, Korthagen and Wubbels (2001, p. 43) believe that this model is ineffective as it "does not account for nonreflective learning" and "it overemphasizes the role of abstract concepts at the cost of concrete and more

individual concepts, images, feelings, or needs". Korthagen and Wubbels (2001) put forward the ALACT model, a feature of the *Realistic Teacher Education* approach (Korthagen, 2001c).

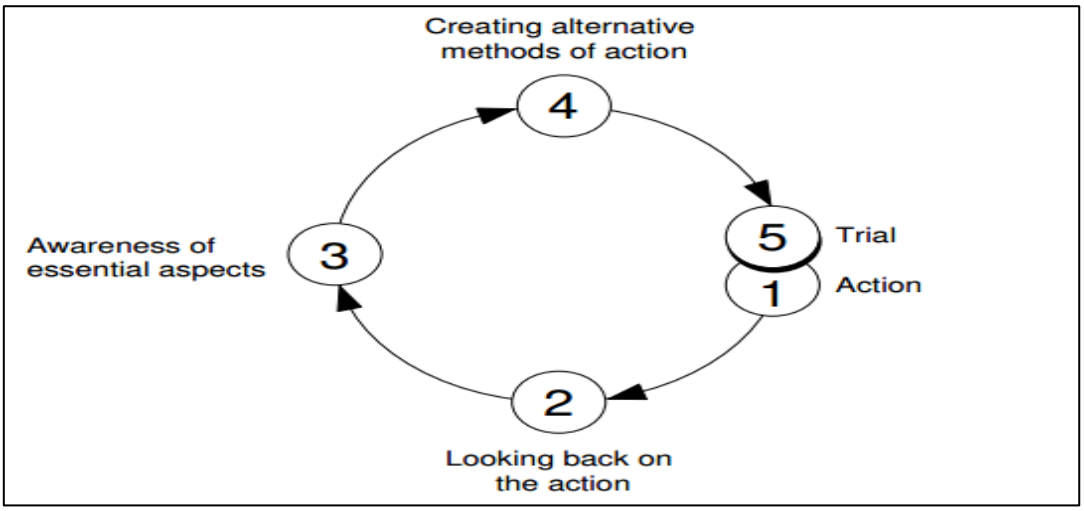

Figure 3.3. The ALACT model (Korthagen, 2001c)

3.3.1. Stages of the ALACT Model

Korthagen and Wubbels (2001) maintain that the ALACT model bridges action and reflection. Named after the first letter of five phases, the ALACT model has been cited in several studies (e.g., Admiraal & Wubbels, 2005: Emsheimer & De Silva, 2011; Korthagen, 1985, 2012; Korthagen & Kessels, 1999; Korthagen, 2001b, 2001c, 2001d).

Action

In Phase 1, this phase leads the reflective process. A probing question or artefact can be used to guide the reflection. This should be suited to the student teachers level of experienced and their lived experiences (2001d). The teacher educator should also be cognisant of the spiral approach, and build on previous reflective discussions (see Figure 3.4)

Looking Back

Phase 2 should focus and guide the student teachers to think about themselves and from doing this, draw conclusions (Korthagen, 2001d). The issue of safety (Maslow, 1968) comes into play here as Korthagen (2001d, p. 116) explains: "The student will find him- or herself somewhere between 'safety' (the need to preserve the existing internal psychological internal order) and 'growth' (expanding one's possibilities)". Korthagen (2001d) argues that safety needs are paramount, particularly in Phase 2. To create and foster a positive safe environment for the student teacher, the teacher educator should ensure that all participants feel accepted. The teacher educator should avoid making direct remarks or be critical of points or concerns raised by the student (Korthagen, 2001d). The teacher educator needs to display a genuine presence and should express an interest in the students' questions and problems. Korthagen (2001d) believes that when the teacher educator shares experience, this can enhance the experience. Within this phase, the teacher educator should keep the student on task, in relation to discussing concrete feelings so that he or she can "zoom in on his or her behaviour in and thoughts about the situation, and the feelings and needs to that accompany them" (Korthagen, 2001d, p. 121).

The Awareness of Essential Aspects

Phase 3 involves an element of confronting the problem, and external feedback and input may be required to promote the student to do so. Korthagen (2001d) explains that confrontation and feedback are inter-related and the role of the teacher educator is to provide feedback on the issues that have emerged. However, such feedback should be delivered with acceptance, empathy, and understanding. Failing to do so, can lead to a culture of resistance and negate the overall learning experience (Korthagen, 2001d). However, as discussed earlier, feedback should be closely

connected to the student's own problem and reflection. Furthermore, feedback should be supported with constructive and practical examples, to further support the student (Korthagen, 2001d).

Creating Alternative Methods of Action

Korthagen (2001d) believes that the student can help him- or herself in this phase. The teacher educator should only (a) interject if the student is unable to find a solution to the problem and (b) to help the student to explore a range of approaches and alternatives – that the student does not just choose the first possible solution. Korthagen (2001d) believes that student teachers may be tempted to propose and suggest solutions that carry little risk. When alternative solutions are explored, the student teacher may become resistant and may perceive other alternatives as being risky and therefore unhelpful.

Trial

In relation to Phase 5, Korthagen (2001d, p. 126) points out that there are little differences between this phase and the initial phase in this reflective process. Furthermore, this phase should not be regarded as the final phase and the conclusions that arise from this phases, should be used to guide further discussions. Figure 3.2 illustrates the key ideas in each phase of ALACT and the cyclical approach in reflection.

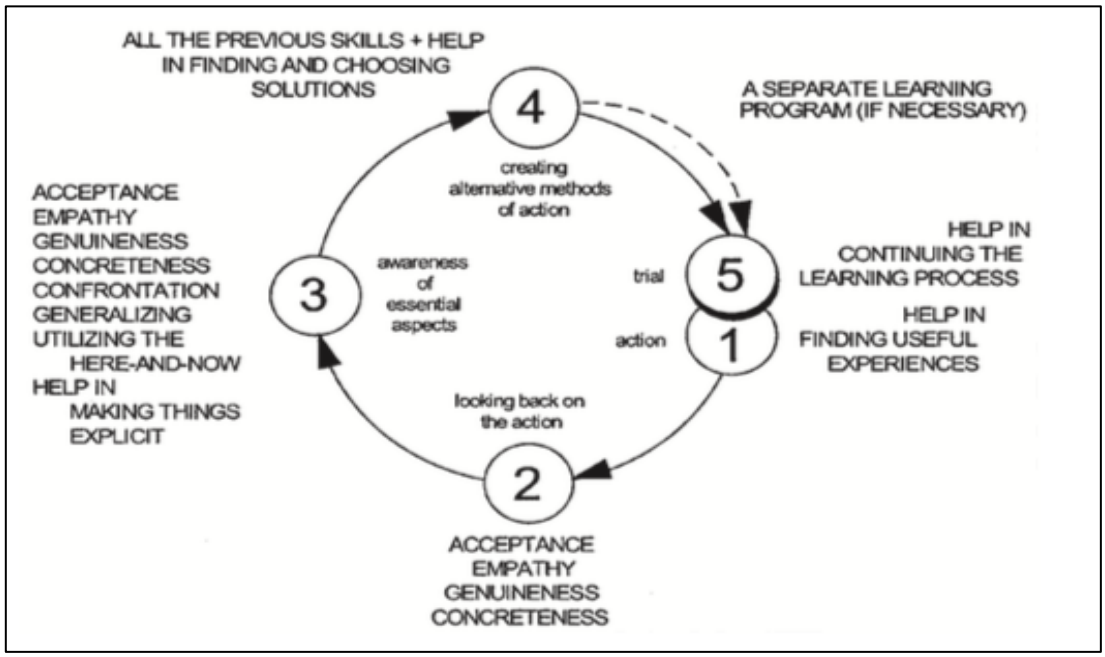

Figure 3.4. ALACT: Helping student teachers to learn (Korthagen, 2001d)

The ALACT model is designed to build on student teachers' preconceptions and relates to situations in which students are directly involved (Korthagen & Wubbels, 2001). This process initially focuses on the student teachers' feelings, perceptions, needs, and concerns, that relate to the teaching experience. Through engaging in this process, the teacher educator and the student teacher can explore concerns around teaching. Korthagen (2001c) suggests that the natural order associated with the process of reflection through the ALACT model can be best described as a spiral (see Figure 3.4). Korthagen (2001c, p. 60) notes: "The spiral represents the process of action, learning from that action, and thus improving on the action, and again learning, and so on". As the student moves through each stage, the quality of reflection should improve. Korthagen and Wubbels (2001) believe that this approach can be more meaningful to the student teacher than broad theories, which may not apply to the student's own experience. Therefore, the teacher educator needs to reflect on the 'nature' and 'type' of knowledge that he or she will bring to support the student teacher in his or her experiential learning. Korthagen (2001c) repeatedly recommends that

each reflective stage, facilitated through ALACT, should build on previous discussions. This can allow teacher educators and students to further probe issues, that they may have encountered previously.

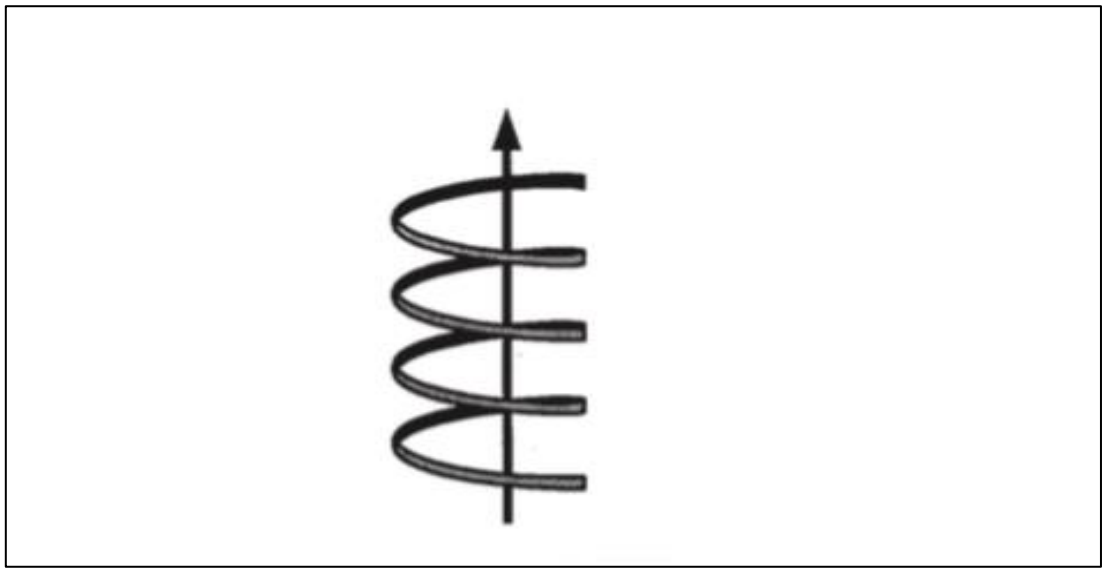

Figure: 3.5. The reflective spiral which underpins Korthagen's theoretical framework (Korthagen, 2001c)

3.3.2. Promoting Reflection in Collaborative Groupings

In relation to working with groups of student teachers, Korthagen (2001b) outlines a specific approach to support teacher educators in structuring such sessions. In Step One, it is advised to provide the students with an assignment or task, that is connected to their experience in the school, and should be based on a concern or learning need. Step Two should involve the student engaging in the task at school and the student should be encouraged to gather data and evidence from his or her local context. Step Three involves each student reporting back to the group. This session can be facilitated with questions from the teacher educator. Korthagen (2001b) emphasises that this step should be carefully structured – each student takes it in turn to present his or her experience. Step Four follows on from this sharing experience and the purpose of this step is to discuss and analyse each experience. Korthagen (2001b) encourages the teacher educator to follow the concerns that student teachers

raise. The teacher educator may point out interpretations, connections and casual relationships across the sharing of local experiences. The sharing and presentation of theoretical concepts and knowledge is dealt with in Step Five. The knowledge should be linked with the students' own experience and presented in a way that the student can relate and connect to.

3.3.3. Types of Knowledge: Knowledge as *Episteme* and Knowledge as *Phronesis*

In relation to the sharing of knowledge in the ALACT model, Kessels and Korthagen (1996, 2001) and Korthagen and Kessels (1999) focus on Aristotle's concepts of *episteme* and *phronesis*. Kessels and Korthagen (2001) recognise that there are other types of knowledge that are distinguished by Aristotle and Plato. However, they decide to "concentrate on the *episteme-phronesis* distinction for clarity's sake and because, despite all the attention it has been given in the past, many people (both researchers and practitioners) find the distinction unclear, a condition that perpetuates ineffective approaches to teacher education" (p.22). Teacher educators need to carefully think about the knowledge they share with student teachers. For example, the teacher educator may perceive knowledge as practical and helpful to the student teacher. However, this may appear to the student teacher as abstract and 'too theoretical' (Kessels & Korthagen, 2001). This sections guides teacher educators on the sharing of knowledge and the nature of knowledge generation in the ALACT process of reflection.

Knowledge as *episteme* focuses on a form of expert knowledge. Characteristics of this type of knowledge include:

> That is, it consists of a set of assertions that can be explained, investigated, transmitted and the like. These assertions are of a general nature; they apply to many different situations and problems, not only to this particular one. Consequently, they are formulated in abstract terms…because they are true, they are also fixed, timeless, and objective…they are fully cognitive in nature; they

> are purely intellectual insights, unaffected by emotions or desires. It is this knowledge that is of major importance, the specific situation and context being only an instance for the application of the knowledge. (Kessels & Korthagen, 2001, p. 23)

Kessels and Korthagen (2001) point out that an over dependence on this expert form of knowledge can be problematic. First, the teacher educator needs to be able to draw on literature. The teacher educator may share knowledge, he or she may perceive as true. However, contradictions may exist within these 'truths'. Second, the teacher education has to transform these 'truths' into the learning experiences for the student teachers and attempt to make these truths relevant to the students' experience. For example, the teacher educator may focus on Maslow and his theory on motivation (1968). The student may struggle to apply this knowledge to his or her own setting. Even though the theory is credible and recognised in the psychosocial domain, the student teacher may not be able to apply the knowledge from this theory in his or her classroom. However, Kessels and Korthagen (1999) believe that the *episteme*-conception of knowledge remains important in teacher education as it allows the student to experience a larger picture of educational knowledge such as what is captured in theories that pertain to education e.g. Maslow's *Hierarchy of Needs* (1967).

Kessels and Korthagen (1999) believe that sharing of knowledge in teacher education needs to be situation-specific and relevant to the students' context.

> This type of knowledge is called phronesis…is more perceptual than conceptual…focuses the attention of the actor in the situation on certain characteristics of the situation, characteristics important to the question of how to act in the situation, characteristics important to the question of how to act in the situation. To put it concisely, episteme aims primarily at helping us to know more about many situations, while the emphasis of phronesis is mostly on perceiving more in a particular situation and finding a helpful course of action on the basis of strengthened awareness. (Kessels & Korthagen, 1999, p. 7)

The *phronesis*-conception of knowledge places a value on practical wisdom and provides a basis for making judgements about particular situations and uses rules and theory in an improvisational and flexible way. Kessels and Korthagen (2001, p. 27) argue: "For particulars only become familiar with experience, with a long process of perceiving, assessing situations, judging, choosing courses of action, and being confronted with their consequences". Therefore, experience is regarded as a prerequisite for this type of knowledge. In terms of problems that arise, the student teacher should be encouraged to reflect on his or her own situation and the teacher educator should probe: what the student's awareness of the situation was; what the student observed in the lead-up to or during the situation; what his/her own reactions were; what the student felt and thought during the situation; and what does the student think now. For the teacher educator, developing *phronesis* is not easy. Kessels and Korthagen (2001, p. 30) note: "One of the main problems is that most teacher educators have themselves been steeped in the episteme conception of knowledge". Hence, teacher educators must also address their own apprenticeship of observation formed during their own initial teacher experience, when setting out to promote and model progressive teacher education (O'Brien & Furlong, 2016).

3.3.4. Developing *Phronesis* through Reflection

The ALACT model can support the development of *phronesis* in teacher education. This model is connected and aligned with student teacher's experience in 'authentic learning contexts' (Korthagen & Wubbels, 2001). Through the sharing of problems, concerns, and questions, the teacher educator can provide insights and practical guidelines (Korthagen, 2013). Such insights "should always be tailored to the specific needs of the student teacher and the situation at hand" (Korthagen & Wubbels, 2001). To provide an environment that promotes learning by reflection, the

teacher educator must ensure that there are certain factors addressed. One critical factor is ensuring that students feel safe and comfortable to share and reflect. Indeed, this has been raised in other areas of the literature (see section 'Addressing Students' Misconceptions' in this chapter). Korthagen & Wubbels (2001, p. 46) note:

> Teacher educator's empathy can help to create a safe environment. In our experience, another very powerful tool to build a positive learning climate is to reward student teachers consistently for positive elements in their performance. By emphasizing their strong points, they become more willing and able to face their weaknesses and invest their energy in risk taking actions that are necessary for improvement of weaknesses. However, the student teacher should be the active agent and take ownership in the learning process. Through scaffolding, the teacher educator can encourage the student to select suitable learning situations, which he or she feels is appropriate. The student teacher should be supported and challenged to "find the right balance between safety and challenge when choosing learning opportunities themselves" (Korthagen & Wubbels, 2001, p. 46).

According to Korthagen (2001d), the ALACT model is guided by four dimensions; wanting, thinking, feeling, and acting. The first dimension is the most important as this will direct the learning process – "what is it the person wants to learn, or wishes to change, or has a concern about?" (p. 113). For example, a student teacher 'wants' to improve his or her use of an interactive whiteboard (IWB). The student teacher engages in reading literature around IWBs and through such reading, his or her 'thinking' is being developed. The teacher educator advises the student to build on this further by taking the opportunity to practice on the IWB – 'acting' on the knowledge gained from the literature. During this process, the teacher educator could probe the student to think about how or she felt using the IWB prior to reflection and how he or she feels now in using the IWB following the reading and reflection experience.

3.3.5. The Benefits of the ALACT Model: Concluding Remarks

The research of Kessels and Korthagen (1999, 2001), Korthagen (2001a, 2001b, 2001c, 2001d, 2012, 2013), Korthagen and Wubbels (2001) present a model of

reflection that is closely aligned with the school placement element in initial teacher education. Furthermore, the failures they identify in the traditional approaches to teacher education such as knowledge transfer, and then practice, has been also highlighted as a problem in other literature (e.g. see Darling-Hammond, 2006; Feiman-Nemser, 2001; Hammerness et al., 2005; Zeichner, 2012). Korthagen and Wubbels (2001) outline why a practice-oriented pedagogy and the ALACT model is important in teacher education. First, Korthagen and Wubbels (2001) believe that it is an impossible task to prepare prospective teachers for each type of situation that they may face during their careers. To deal with myriad challenges, teachers need to:

> …develop an attitude of willingness to learn from their experience in changing circumstances…if teachers acquire this attitude and also the necessary sills to learn from their own experience by means of reflection, they possess a so-called growth competence: the ability to continue to develop when the preparation programme is over. (p. 47)

Second, Korthagen and Wubbels (2001) argue that shared reflective experiences can (a) immerse student teachers in problem solving and (b) encourage student teachers to learn from their experience and develop reflective skills. Furthermore, it is argued that the development of reflective skills can help student teachers to see the process they are going through, including the struggles they encounter when learning to reflect on their experiences. By engaging in dialogue and identifying problems that provide a catalyst for learning, they are also indirectly learning about critical thinking. Therefore, the model and approach discussed above may move beyond from just 'learning-about-teaching' to 'learning-about-learning'.

In addition to the advantages of this model, Korthagen (2012) highlights that studies have noted the success of this model. For example, drawing in on two studies conducted by Luijten, Marinus, and Ball (1995) and Samson and Luijten (1996), Korthagen (2012) explains that in a national evaluation study of Dutch teacher

education programmes, 71% of a sample of graduates from a university that employs the ALACT model, rated their professional preparation as ‘good’ or ‘very good’. Korthagen (2012, p. 127) notes: “This is a remarkable result, as, in the total sample of graduates from all Dutch teacher education programmes preparing for secondary education (n=5135), this percentage was only 41 ($p < 0.001$)”. In addition, an evaluative study conducted by Koetsier, Wubbels, and Korthagen (1997) found that 86% or participants consider their teacher education programme as ‘relevant’ or ‘highly relevant’. Although literature around the ALACT model strongly promotes this approach to reflection in teacher education, Korthagen (2012) notes that challenges can arise. The ALACT model can prove challenging with large groups of students. In addition to this, incorporating the ALACT model into teacher education programmes “requires frequent alternation of school teaching days and meetings aimed at the deepening of teaching experiences” (p. 129). This can be a time-consuming experience and can add additional pressures on students and teacher educators.

The application of this theoretical framework to the design and facilitation of LÍNTE is promising. It provides an appropriate mechanism to explore the challenges that students encounter on their practicum, and alongside this, provides strategies around cultivating an open supportive environment. Second, it values the learning that can be gleaned by discussing issues that directly relate to practice. Finally, the application of this approach in an online context, can perhaps contribute to this theoretical framework, particularly the application of the ALACT process in an online hybrid space, bridged between coursework and practice. Alongside addressing problems and using these as catalysts for reflections, there is also a further layer of learning to be gained. Beyond merely engaging in reflective dialogue, students raising

issues in such spaces are also making enquiries into their practice. The next section draws on a seminal framework, which explores how the sharing of practice can enable practitioners to take an inquiry stance, and in doing so, construct and generate knowledge.

3.4. Towards an Enquiry-Based Pedagogy: *Inquiry as Stance*

The final theoretical framework examined in this chapter explores 'Inquiry as Stance'. Coined by Cochran-Smith and Lytle (1999), inquiry as stance offers a unique view of the relationship between knowledge and practice. Furthermore, inquiry as stance places key emphasis on the role of practitioners who generate theory and knowledge through practice. Cochran-Smith and Lytle (2009, p. 2) believe that schools are places that support learning and practitioners working in schools are:

> …deliberative intellectuals who constantly theorize practice as part of practice itself and the goal of teacher learning initiatives is the joint construction of local knowledge, the questioning of common assumptions, and thoughtful critique of the usefulness of research generated by others both inside and outside contexts of practice.

Inquiry as stance should not be regarded as a strategy or model (Cochran-Smith & Lytle, 2009; So, 2013; Zuidema, 2013). Zuidema (2013, p. 63) explains: "Whereas traditional notions of inquiry focus on time-bounded, formal activities such as teacher research, perspectives on inquiry as stance emphasize habitual ongoing awareness-a disposition, mode of living, or state of being". Inquiry as stance acts an umbrella term, which captures a variety of genres: action research; teacher research; self-study; the scholarship of teaching; and practice as a site for research. As Cochran-Smith and Lytle (2009, p. 41) point out the "duality of roles" enables practitioners, such as student teachers, classroom teachers, and teacher educators, "to participate in the inquiry process as researchers, working from the inside". In addition to this, even though enquiry can be conducted by individuals, a common feature of enquiry is that

it is linked with collective practice in schools. The role of the school in professional learning has also been documented in a plethora of research (e.g., Borko, 2004; Cobb, McLain, de Sliva, Laberg & Dean, 2003; Lave, 1996; Putnam & Borko, 2000). Borko (2004, p. 4) notes:

> For teachers, learning occurs in many different aspects of practice, including their classrooms, their school communities, and professional development courses or workshops. It can occur in a brief hallway with a colleague, or after school when counselling a troubled child. To understand teacher learning, we must study it within these multiple contexts, taking into account both the individual teacher-learners and the social system in which they are participants.

Inquiry as stance explores the problems and issues that arises across different aspects of practice. Inquiry as stance enables practitioners, including teacher educators, to generate new kinds of knowledge using their professional sites as sites for enquiry.

3.4.1. Establishing Enquiry Communities based on the concept *Inquiry as Stance*

In theorising inquiry as stance, Cochran-Smith and Lytle (2009, p. 139) describe community as a core dimension and enquiry communities act "as the primary mechanism for enacting the theory of action". Inquiry as stance focuses on work of the collective groups – pairs or groups working within schools or across schools in face-to-face or in virtual networks – working together to improve practice and to enhance learning and bring about change in educational practice (Cochran-Smith & Lytle, 2009). Cochran- Smith and Lytle (2009, p. 140) note:

> The essential purposes and functions of enquiry communities are to provide rich and challenging contexts for practitioner learning over the professional life span as well as making available productive locations for linking communities of educators with large change efforts, both nationally and internationally.

In the past decade, there has been a preoccupation with the term 'communities'; particularly within policy and directives that are predominately concerned with improving test scores and the performances of children in high-stake assessments

(Cochran-Smith & Lytle, 2009; Hargreaves, 2007). The danger that teacher educators now face is the existing perception of communities in schools. For example, it has been noted by Hargreaves (2007) that teacher or learner communities in the USA are perceived as rigid mandatory after-school meetings where the core-practice involves the analysis of assessment data for school improvement. This can be detrimental to the true nature of enquiry communities as Cochran-Smith and Lytle (2009, p. 140) explain: "Those that limit the focus and tasks of communities to what fits within a narrow accountability frame may actually contribute to the de-skilling of practitioners and may constrain participants from contributing to more encompassing educational transformation". Therefore, the focus of communities should be on a wider agenda than analysing assessment data and identifying 'what works' in education. Participants in such communities should be encouraged to question and unpack their own assumptions through reflecting in and on practice in relation to their own local context. Enquiry communities should provide a space where practitioners are encouraged to pose problems of practice that require studying their own contexts (Cochran-Smith & Lytle, 2009). An enquiry community alters and replaces the traditional expert-novice approach. In seeking a new type of community, Cochran-Smith and Lytle (2009, p. 144) are critical of professional development communities which assume:

> …that the expert is the one who knows how to implement the formal knowledge base for teaching, which has been generated by experts outside schools, while the novice is one who learns effective practices by imitating the strategies of his or her more competent colleagues or expert trainers and coaches.

In addition to this, Orland-Barak and Tilema (2007) and Meirink, Meijer, and Verloop (2007) note that the voice of each practitioner is key, as one voice may add new knowledge or critique existing assumptions. Therefore, enquiry communities are conceptualised as communities where all participants are regarded as lifelong learners and all participants, who come from alternative settings, are contributing and sharing

perspectives and knowledge, which arise in their classrooms and schools. Cochran-Smith and Lytle (2009, p. 145)

> Participants in inquiry communities can unpack these dynamics together and thereby learn about the contingent relationships, for example, between their own learning and students' learning…when educators (and other stakeholders) come together in intentional inquiry communities or decide to inquire into their practices as members of educational groups, there is much to be gained by not reverting to traditional hierarchies of knowledge and expertise, which can shut down rather than open up possibilities for diverse perspectives on posing or solving educational problems.

In addition to this, learning in communities in initial teacher education has been found to promote inclusive learning. Beck and Kosnik (2006) established and modelled inclusive practice within communities and found that students responded positively to this, whereby working in communities can enhance their awareness of inclusive education. However, there is literature that is critical of the emphasis placed on 'community' in the construction of knowledge. For example, So (2013) notes that there are a range of varying interests in teaching can negate the experience, as participants may have vested interests or display limited interest in the points that are discussed. Cobb et al. (2003, p. 14) further support this and note: "Teaching is frequently a site of tension in that people with a school or district are frequently pursuing conflicting agendas". This issue that may arise may relate to the complex nature of teaching. It is important to draw on fostering active engagement amongst students, as discussed in the previous chapter (see Social Presence). Hence, such enquiry-oriented discussions should be facilitated with open-ended questions, to allow for students to raise issues that emerge in their own context. Furthermore, a reciprocal supportive culture should be fostered from the outset, where students are not merely seeking advice to their own problems, but are furthermore, contributing to discussions which support students. Considerations around facilitating this are addressed in the next chapter.

The affordances of new technologies have enabled the establishment of enquiry communities online where the sharing of enquiries into classroom practice can be facilitated in a virtual space. Cochran-Smith and Lytle (2009, p. 22) believe that online communities can "create a space for an interactive intellectual community where distal educators can participate in enriching and inventing the documentation of teaching and learning practice". Furthermore, the Internet "permits user-generated forms of sharing, collaboration, and support that are fast and fluid" (2009, p. 23). Although the use of virtual spaces or online resources has become preoccupied with the sharing of lesson planning, there have been initiatives where the sharing of practice has occurred within enquiry groups. A notable advantage in using digital technologies in enquiry communities is that it 'publicises' and 'deprivatises' teaching, and sets out to make one's practice of teaching visible to others across online communities (Cochran-Smith & Lytle, 2009). It is important that supports are available, and that participants are encouraged to build on others' suggestions. Through modelling, teacher educators can encourage participants to ask questions and engage in "critically constructive" conversations (Zuidema, 2012, p. 63). Therefore, careful thinking and time should be invested into the design and conceptualisation of such experiences. In addition, the presence of the teacher educator is pertinent in facilitating the community.

3.4.2. The Generation of Knowledge in Communities

The traditional knowledge for practice conception "depends on the assumption that the knowledge teachers need to teach well is produced primarily by university-based researchers and scholars in various disciplines" (Cochran-Smith & Lytle, 2009, p. 255). This relates back to the conception of knowledge as *episteme* (Kessels & Korthagen, 2001) where such knowledge is based on scientific theories. Cochran-Smith & Lytle (1999, p.254) explains that this quest for 'scientific knowledge bases

in education' came about in response to the professionalisation of teaching where the educational community quested to "join the other major professions by establishing an official and formal body of knowledge that distinguishes professional educators from laypersons" (Cochran-Smith & Lytle, 1999, p. 254). However, Cochran-Smith and Lytle (1999) argue that knowledge for practice results in teachers becoming users of knowledge, as opposed to generators of knowledge. As Kessels and Korthagen (2001) argue, such theories or knowledge may be problematic to apply in practice. When teacher education programmes apply a knowledge for practice approach, this transmission-oriented approach is challenged by contemporary theories of learning such as constructivist and sociocultural learning theory. Aforementioned, there is an importance for teacher educators to not just talk-the-talk' but 'walk-the-walk' (Darling-Hammond, 2006). Presenting slides about constructivist pedagogies and learning to large cohorts of students in large lecture theatres is questionable. Student teachers should be afforded the opportunity to engage in constructing knowledge to understand the value of sociocultural learning theory (Darling-Hammond, 2006)

The knowledge in practice conception draws on the assumption that the effective knowledge is embedded in the practice of experienced teachers. Knowledge in practice should be carefully distinguished from knowledge for practice (Zellermayer & Tabak, 2006). The knowledge in practice conception is rooted in the work of Donald Schön (1983, 1992) who challenges hegemonic institutions and the transmission of practitioner-proof knowledge. Building on the work of John Dewey (1938), Schön (1983, 1992) posited the theory of reflecting- or knowing-in-action. Knowledge in practice is often contingent on an unexpected experience where the application of theory is not sufficient to attend to the problem at hand. In terms of teaching, the teacher draws on his or her experience to help comprehend situations (Schön, 1983).

It is acknowledged "that competent professionals pose and construct problems out of the uncertainty and complexity of practice situations and that they make sense of situations by connecting them to previous ones and to a variety of other information" (Cochran-Smith & Lytle, 1999, p. 263). This view of knowledge is based on the generation of new knowledge based on practice rather than relying on previously established theory and knowledge. The knowledge in practice conception can be perceived as trial and error, and as anti-intellectual (Cochran-Smith & Lytle, 1999). However, such arguments are challenged and recognised in the work of Schön (1987) and Dewey (1904). "Dewey cautioned against plunging would-be-teachers too early into the real world of schools where they were forced to focus on details and outward management issues and hence likely to develop habits fixed through 'blind experimentation' rather than considered deliberation" (Cochran-Smith & Lytle, 1999, p. 269).

A new vision of teacher knowledge, knowledge of practice, has emerged over the past decade which blurs the formal-practical knowledge distinction. Cochran-Smith and Lytle (1999, p. 274) define knowledge of practice as knowledge that is "constructed collectively within local and broader communities" which "emanates from systematic inquiries about teaching, learners and learning, subject matter and curriculum, and schools and schooling". This conception of knowledge recognises that the teacher is an active agent in his or her learning and through examining assumptions around practice, teachers construct knowledge to transform teaching and learning. In addition to this, Zellermayer and Tabak (2006, p.35) note that collaborative enquiry enables teachers to acquire new approaches to interpret practice, to respond to the needs of their students and colleagues, to revise and reflect on existing assumptions, and to share this new knowledge with others within and outside such communities.

Through engaging in dialogue, collecting and sharing data from their specific practice site, and analysing and interrogating existing conceptions, practice can be improved through knowledge generation. When inquiry as stance is enacted, knowledge of practice is generated. Furthermore, Cochran-Smith and Lytle (2009) discuss how inquiry as stance works the 'dialectic', referring to the tensions and dichotomies that exist between research, knowledge, and practice. Inquiry as stance turns such dichotomies "on their heads" where "the borders between inquiry and practice are crossed and the boundaries between a researcher and practitioner are blurred" (Cochran-Smith & Lytle, 2009, p. 49). Enquiry communities can feature a range of practitioners working together including novice and experienced teachers within one school setting or across several schools (Cochran-Smith & Lytle, 2009). Regardless if this occurs with a group of teachers within one school or across schools, knowledge generation is occurring. This knowledge can inform practice, and in certain cases can inform "policy beyond the immediate context" (Cochran-Smith & Lytle, 2009, p. 42). However, Cochran-Smith and Lytle (2009, p. 46) explain that there is criticism of "the assertion that practitioners can generate knowledge (as opposed to wisdom or experience) about teaching and teacher education based on their perspectives inside professional contexts". Enquiry has been described as "idiosyncratic" that only belongs to a specific context. For example, Orland-Barak and Tillema (2007, p. 369) argue that local knowledge becomes hard to share due to differences in "beliefs, orientations and perspectives". This critique will be revisited at a later point, considering the empirical findings that emerge in relation to LÍNTE.

3.4.3. Inquiry as Pedagogy in Teacher Education

Inquiry as stance promotes practice as "a site for inquiry, interrogating one's own work and other's practices and assumptions, and learning from and about practice

by collecting and analyzing the data of daily work" (Cochran-Smith & Lytle, 2009, p. 108). Though there are clear benefits in contextualising inquiry as stance in teacher education, this can prove challenging. Enquiry-oriented pedagogies can "intentionally disrupts the expert-novice expectation and challenges the assumption that the point of university courses is learning theory to be implemented in practice" (Cochran-Smith & Lytle, 2009, p. 110). Cochran-Smith and Lytle (2009, p. 108) argue:

> Rather than examining and mastering a predetermined body of knowledge, the goal is for instructors and students to engage in a range of texts in an exploratory, experiential pursuit of understandings that will by definition vary from student to student, instructor to instructor. Participants in these inquiries are assumed to bring distinctive histories/herstories, cultural and linguistic resources, and goals.

During this process of engagement, an enquiry-oriented pedagogy emphasises time where the 'assumptions' and 'prior experiences' of participants are interrogated and discussed. There is a key emphasis on "respectful, intellectually challenging, and supportive relationships" working together to "mine these differences deliberately and constructively to yield new insights about teaching, learning, and schooling" (Cochran-Smith & Lytle, 2009, pp. 108-109). Enquiry-based courses and programmes are enriched where there is an emphasis placed on 'social practices' that courses and programmes provide, where participants collaborate and co-construct 'local knowledge' (Cochran-Smith & Lytle, 2009). Although there is an emphasis placed on collaborative enquiry, participants are:

> …expected to conduct their own simultaneous inquiries by searching for other studies that relate to particular interests and to bring these to bear on the work of the class in ways that integral, rather than peripheral, to the focal inquiry of the group" (p. 109).

Furthermore, participants should be encouraged to recognise that knowledge can be generated from enquiry into questions and problems that arise from 'everyday life'. Cochran-Smith and Lytle (2009, p. 110) warn teacher educators who aspire to develop enquiry-oriented pedagogy to recognise "there is a fine line between inviting teachers

or prospective teacher educators to engage in inquiry and requiring them to do it in order to earn a degree or credit for course". When designing an enquiry community, the teacher educator should avoid 'predetermining the syllabus' and should recognise that an enquiry-based pedagogy can provide a space to collaboratively construct agendas and conversations around teaching and learning. However, So (2013, p. 195) contradicts this viewpoint, based on a study that explored the process of teachers' knowledge construction within a community designed based on the concept of inquiry as stance. "Teachers were clearly disappointed to find that they had to determine the enquiry topic themselves, and they found it difficult to accept that all participants had equal status". Furthermore, students who were not interested in the topic "continued to express complaints and displayed a passive attitude throughout the process" (p. 195). Zellermayer and Tabak (2007) outline a process or an account that can support the process of knowledge construction in enquiry communities. The first part of this account begins with the participants problematising the situation. The second part is devoted to data collection where "participants collect data of their work in class" and the "the group's collaborative enquiry focuses on the participants' data analysis" (p. 46). In the final part, students share findings with each other. Zuidema (2012, p. 63) also believes that educators need to "model and encourage conversations warranted not only by members' experience but also by references to more public teaching-learning conversations". Through the employment of a 'dialogic curriculum', teachers are encouraged to focus on "topical inquiries" and are encouraged to "situate the knowledge they gain through experience and to recognize how they may participate in broader professional conversations" (Zuidema, 2012, p. 63).

3.3.4. Professionalism and Inquiry as Stance

Cochran-Smith & Lytle (2009) contend that inquiry as stance brings out a new idea of professionalism. With recent developments in policy and increased emphasis on accountability agendas, teachers, as practitioners, are faced with challenges that "require knowledge and skills that do not yet exist, but must be invented in the course of working on the problem itself" (Cochran-Smith & Lytle, 2009, p. 146). When practitioners take an inquiry stance, they are setting out to work with and challenge the current system that they work in. As discussed, there is emphasis place on the value of questioning existing systems and approaches. Furthermore, the notion of challenging and questioning educational practice can be considered as a goal in transforming teaching and learning. In addition, teachers who take an enquiry stance in their professional day-to-day duties can facilitate enquiry-based learning approaches in their classrooms.

> Inquiry pedagogy engenders inquiry learning. Teachers who work from an inquiry stance that involves continual and critical questioning foster the development of students who do the same. Teachers who see themselves as knowers ask questions and pose problems, and so do their students. (Cochran-Smith & Lytle, 2009, p. 147)

This notion contrasts the ideas that learners are merely receivers of knowledge. Inquiry as stance recognises that teachers and students require basic knowledge and skills but by taking an inquiry stance, they can ask questions about such knowledge.

Cochran-Smith and Lytle (2009) make similar arguments to Darling-Hammond (2006) and Hammerness et al. (2005), pointing out that teaching is constantly challenged with uncertainty and changing conditions. The notion that problems are technical and can be solved by reverting to an existing knowledge base is no longer viable (Cochran-Smith & Lytle, 2009). Teachers need to be 'adaptive' to deal with challenges. This requires "creating the knowledge and tools to solve problems in the

act of working on them" (Cochran-Smith & Lytle, 2009, pp 158-159). Teachers, as practitioners, are making decisions in enquiry communities in addressing the challenges of teaching and learning, stemming from the needs of their students, as well as policy and curriculum demands. Through this collective experience, teachers generate knowledge and share ideas to address such problems in teaching.

3.4.5. Inquiry as Stance: Concluding Remarks

Inquiry as stance provide multiple pathways in allowing teacher educators, teachers, student teachers and other relevant stakeholders in education, to explore themes as they arise in the practice. Cochran-Smith and Lytle (2009, p. 165) believe that such work provides:

> …encouraging images of what happens when communities (in classrooms and beyond) form around investigations of practice and their inquiry becomes central to re-imagining and re-inventing how and what adults, youth, and children teach and learn in educational institutions and beyond.

Within this research, designing an intervention based on the concept of inquiry as stance can provide student teachers and teacher educators with the opportunity to engage in collaborative enquiry that is closely linked with school placement.

3.5. Conclusion

To design an intervention that is catering for student teachers' learning to teach experience, it was important that a section of this study was devoted to exploring the myriad issues around learning to teach in initial teacher education. This chapter set out to explore the current challenges and problems in teacher education and how such challenges can impact the student teachers' learning experience. Arising from this, a range of learning principles, guidelines, and conceptual models were examined. In relation to the current teacher education landscape, a recurring issue that was raised was around the preoccupation with accountability. This accountability agenda has driven a technical teaching agenda in schools. The importance of addressing a triad of

challenges in teacher learning was also discussed: apprenticeship through observation, the problem of enactment, and complexities in the practice of teaching. To address this, effective learning principles were identified. In addition to this, the concept of 'adaptive expertise' was explored as well as the challenges that teacher educators face in promoting adaptive expertise. The chapter then explored two well-recognised theoretical frameworks. The ALACT model, a feature of *Realistic Teacher Education,* provides guidelines for teacher educators to structure and facilitate reflection around experiential learning in initial teacher education. *Inquiry as Stance* (Cochran-Smith & Lytle, 2001, 2009), described as a 'habit of mind', promotes the co-construction of knowledge from practice and from learning within communities. Central to these theoretical frameworks is an emphasis on learning to teach in communities. Purposeful constructed learning communities can afford student teachers to work with peers and teacher educators in a community, where there is an emphasis on shared practice, and the key theoretical frameworks that have been discussed emphasise the influence that such communities can have on teacher learning. Furthermore, a recent study in the Irish context by Parker, Patton and O'Sullivan (2016), highlight that three 'discrete signature pedagogies' can enhance teacher education across the continuum, namely: (1) *Critical Dialogue* (where knowledge is acquired through interactions), (2) *Public Sharing of Work*, and (3) *Communities of Learners* (collective learning occurs around a shared interest or concern). It is apparent that these three pedagogies are central to the theoretical frameworks discussed above and thus, will be central to the LÍNTE experience. Finally, Zeichner (2010) has focused on the importance of hybrid spaces in learning to teach, bridged between the university and school practicum. Such hybrid spaces allow student teachers access to multiple sources of expertise. These hybrid spaces can alter the university-school divide and the knowledge for practice approach

to professional learning (Cochran-Smith & Lytle, 1999; Conway et al., 2009; Kelleghan, 2002). Although a dearth of literature exists in relation to hybrid spaces in learning to teach, Zeichner (201) contends that such spaces can offer valuable learning. However, Zeichner raises a concern around the tenability of such approaches, as this can challenge the existing epistemologies of universities.

The next chapter will revisit the themes and issues discussed in this chapter. Furthermore, connections will also be made with the literature around online pedagogy and the Community of Inquiry framework. Arising from this, theoretical principles will be formulated, which will underpin the design, implementation and evaluation of the LÍNTE intervention. In concluding this chapter, Table 3.1. helps draw connections across the theoretical frameworks discussed in this chapter, the following table is presented.

Table 3.1. *Theoretical frameworks in learning to teach*

<table>
<tr><th colspan="3">Theoretical Frameworks in Learning to Teach</th></tr>
<tr><th colspan="3">The Triad of Challenges in Learning to Teach (Darling-Hammond, 2006)</th></tr>
<tr><td>Apprenticeship of Observation
Socialisation in the education field since childhood
Sociocultural influences i.e. cultural archetypes
Traditional vs progressive notions of teaching e.g. level of preoccupation with control and authority, child-centred vs teaching-centred learning
↓</td><td>Complexities in the Practice of Teaching
Diversity in classrooms e.g. diversity in learning, behaviour
Preoccupation with accountability mechanisms e.g. pressure of high stake assessments
Curriculum demands e.g. new methodologies and approaches espoused in curriculum and policy
↓</td><td>The Problem of Enactment
Contextual factors e.g. culture in school/classroom may challenge enactment
Resourcing issues e.g. space and resources in school to facilitate approaches endorsed in ITE
On-site support needed around the application of such approaches
↓</td></tr>
<tr><td>Korthagen’s ALACT Model (Korthagen, 2001c)
Identifying problems, through posing question
Encouraging the student to reflect on the experience and describe the experience
Encourage the student to confront the situation and provide feedback
Student sets a new plan of action
↓</td><td>Deprivatisation of Practice
↔
Knowledge Construction
↔
Collaborative Learning
↔
Learning in Communities
↔
A Hybrid Space Aligned with the Practicum
↔
↓</td><td>Enacting Inquiry as Stance (Cochran-Smith & Lytle, 1999, 2009)
Identifying problems that emerge in practice, with the intent of improving practice
By identifying and sharing problems, knowledge of practice is generated
Alters the expert-novice approach to learning All participants’ contributions are important
↓</td></tr>
<tr><td colspan="3">Applying the Triad of Challenge as a Catalyst for Learning Opportunities in ITE Provision (Darling-Hammond, 2006; Furlong, 2012; Sugrue, 1997)
Lay theories informed by apprenticeship of observation need to be discussed and those that may challenge progressive approaches must be challenged and altered
Linked with addressing the above problem, teacher education should provide opportunities to integrate the elements of coursework, which are closely aligned with the practicum e.g. apparent linkages between curriculum, SEN, and general methodology. Such linkages should be developed further on the practicum
Student teachers should be supported in enacting the methodologies and approaches endorsed in their coursework, through modelling and practical guidance
Such approaches can be facilitated in the learning approaches espoused in the theoretical frameworks above</td></tr>
</table>

CHAPTER FOUR: THEORETICAL PRINCIPLES AND THE DESIGN OF LÍNTE

Building on the policy rationale in Chapter One and the review of literature in Chapters Two and Three, this chapter presents an overview of the theoretical principles that will guide the design of the intervention. These theoretical principles are developed in line with the online pedagogy and teacher education literature. Following the presentation of the theoretical principles, the chapter will present the learning intentions and pedagogical approaches that will be explored in the online sessions. As the nature of intervention will be informed by on-going action and evaluation, the learning intentions and pedagogical approaches presented in this chapter are indicative. The final section of the chapter focuses on the technological tools that will be adopted in facilitating this intervention. Two technological tools will be employed in facilitating LÍNTE: (1) the employment of synchronous technologies will provide a space for participants with face-to-face time to interact in a collaborative virtual environment and (2) asynchronous technologies will be utilised so that students can build on the face-to-face discussions and revisit the discussions in the asynchronous forum. The benefits and challenges in using these technological tools will be discussed. The literature review in Chapters Two and Three have identified theoretical frameworks that are relevant and appropriate to the LÍNTE intervention. Figure 4.1. identifies commonalities across the theoretical frameworks of Cochran-Smith and Lytle (1999, 2009), Garrison (2011) and Korthagen (2001c).

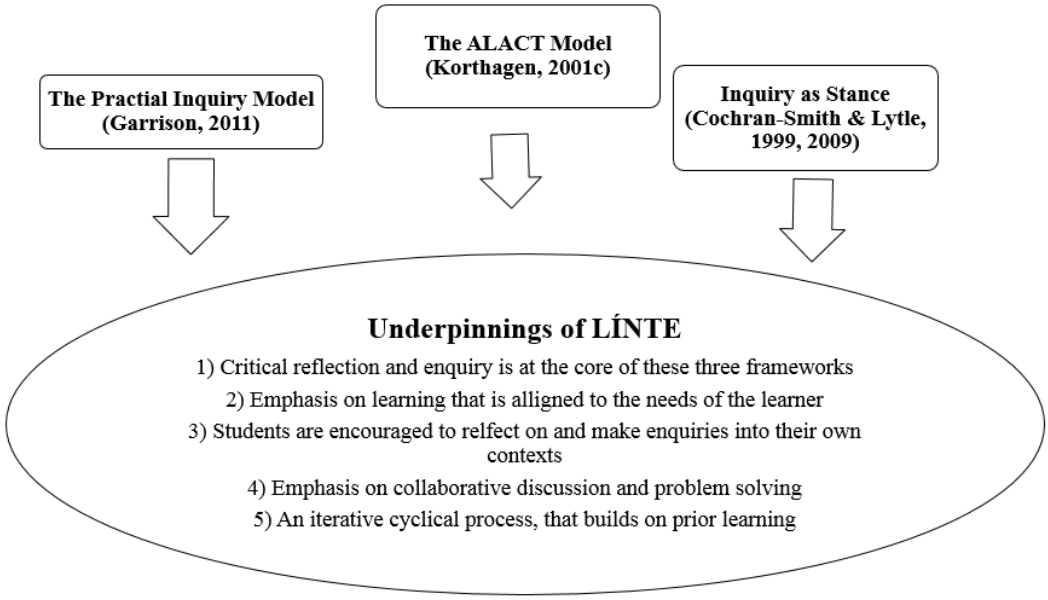

Figure. 4.1. Commonalities in the theoretical frameworks in chapters two and three: The Underpinnings of LÍNTE (Cochran-Smith & Lytle, 1999, 2009; Garrison, 2011, Korthagen, 2001c)

4.1. Theoretical Principles of LÍNTE

As illustrated in Figure 4.1, there are commonalities evident across the theoretical frameworks previously explored in both the online and teacher education literature: (1) the Practical Inquiry Framework espoused in the online pedagogy field, (2) the ALACT model emanating from Korthagen's Realistic Teacher Education approach (Korthagen, 2001a), and (3) Inquiry as Stance (Cochran-Smith & Lytle, 1999, 2009). To drive the future design of an online intervention, that is allied with learning to teach on school placement, guiding theoretical principles are put forward. These principles draw on the key concepts and the theoretical frameworks in the previous chapters. The principles underpin and influence the overall LÍNTE experience and are interrelated and connected (as illustrated in Figure 4.2).

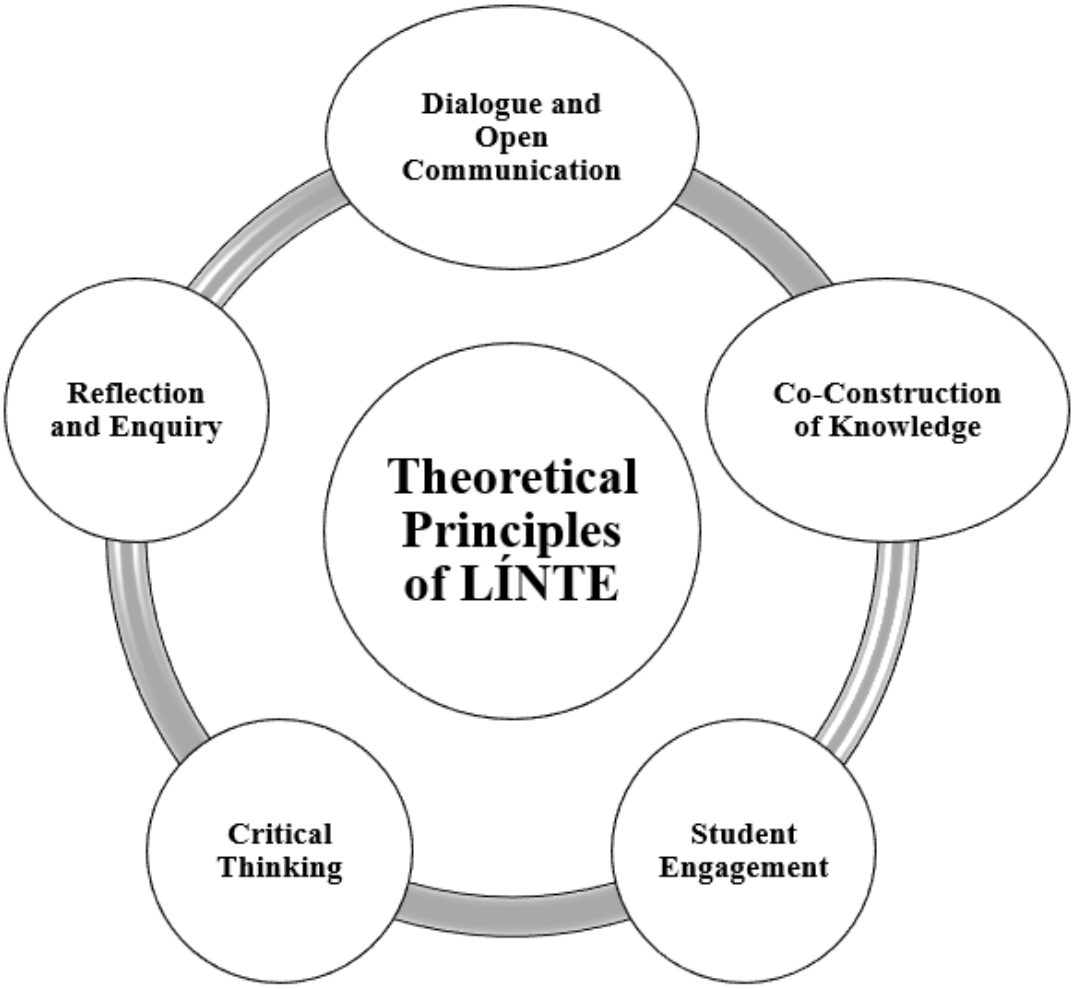

Figure 4.2. Theoretical principles of LÍNTE

4.1.1. Dialogue and Open Communication

LÍNTE will recognise that dialogue and communication is paramount in online learning, as highlighted in a plethora of existing literature (e.g. Moore, 1993; Dunlap & Lowenthal, 2009; Swan et al., 2012). Recognising that learning is occurring at a distance, this intervention will set out to ensure that meaningful opportunities are established to promote dialogue and communication. The development and facilitation of an online learning experience where students in engage in meaningful dialogue requires careful planning and design (Arbaugh & Hwang, 2006; Shea & Pickett, 2006). Therefore, opportunities for facilitating and enhancing discourse in LÍNTE will

be carefully developed. The online teacher will have a visible presence from the outset in the online meetings. Although, there is an acceptance that dialogue and communication is paramount in this intervention, it is necessary that the online meetings do not become preoccupied with simply building social relations.

The effectiveness of online and distance learning in teacher education has also been highlighted in the review of literature (e.g. see Clarke, 2009; Collin & Karsenti, 2012; McLoughlin et al., 2007). Such research has identified the importance of clear channels of communication and collaborative learning in teacher education. There is recognition that dialogue and discussion around the practicum experience is recognised as an important component of teacher education (Korthagen, 2001b, 2001c, 2001d). Through providing reflective enquiry-oriented spaces, students will have the opportunity to critically reflect on their teaching and come to recognise schools as valuable learning sites (Cochran-Smith & Lytle, 2009; Darling-Hammond, 2006; Korthagen, 2001b, 2001c, 2001d, 2012, 2013). This intervention will recognise that reflection is a shared experience, which is promoted through discussions that are closely connected with prior experiences and perceptions around teaching and learning. Indeed, dialogue and communication between the student teacher and teacher educator is essential, to support student teachers in learning to teach (Korthagen, 2001d). Both teacher education and CoI theorists (Garrison, 2011; Korthagen, 2001b, 2001c) argue that there should be careful planning put into developing spaces where students feel welcomed and are provided with opportunities to share their experiences. There also needs to be a recognition that certain students may encounter challenges in: (1) engaging in LÍNTE due to the different level of competencies in using online technologies (Collopy & Arnold, 2009; Garrison, 2011), (2) sharing experiences about teaching and classroom practice (Korthagen, 2001c),

and (3) altering lay theories about teaching and learning that have been developed through their apprenticeship of observation (Darling-Hammond, 2006).

4.1.2. Co-Construction of Knowledge

This intervention draws predominately on sociocultural theories of learning and will recognise knowledge as constructed, social and distributed. Student teachers co-construct knowledge with peers and tutors in an online space. Conceptualising knowledge in this intervention falls in line with the principles of learning in Irish primary schools (Primary Curriculum, 1999). In addition to this, learning to teach in communities is also promoted in initial teacher education (Cochran-Smith & Lytle, 1999, 2009; Darling-Hammond, 2006; Hammerness et al., 2005). CoI theorists value constructivist learning and recognise that learning should be a collaborative constructivist experience within online communities (Garrison et al., 2003). Furthermore, this process of learning online is recognised as a social activity (Garrison, 2013; Swan et al, 2009). In designing an intervention that captures socio-constructivist learning, careful considerations will be put into the design and facilitation of the intervention so that student teachers are afforded the opportunity to engage in collaborative learning environments. CoI theorists have been critical of universities who emphasise the importance of constructivist learning theory but teach this through independent and isolated learning approaches. Indeed, this has also featured in discussions in teacher education (Darling-Hammond, 2006). Immersing students in a collaborative learning environment can allow them to recognise the value and potential of such learning experiences. Therefore, careful considerations need to be put into the (a) design and (b) the facilitation of this intervention so that socio-constructivist learning is embedded in all stages.

Cochran Smith and Lytle's (1999, 2009) knowledge of action concept and the *phronesis*-conception of knowledge (Kessels & Korthagen, 1996, 2001) will be endorsed in this intervention. The intervention will recognise that the student teacher is an active agent in his or her learning and will enable the student to interpret their own practice and share knowledge with peers and teacher educators. By promoting an enquiry stance (Cochran-Smith & Lytle, 2009), participants will collect data, share experiences and conceptions, with the intent of improving practice through knowledge generation in online communities. In addition to this, this intervention will draw on the *phronesis*-conception of knowledge. Knowledge generation from authentic learning experiences will be promoted through shared experience and reflection. As Korthagen and Wubbels (2001) and Darling Hammond (2006) discussed in Chapter Three, teacher educators need to be mindful of the reluctance and resistance that student teachers have in relation to sharing experience and practice. To address this, this intervention will involve students and teacher educators sharing experience and practice (Korthagen & Wubbels, 2001).

4.1.3. Student Engagement

The intervention sets out to ensure that student engagement is at the centre of the learning experience. The importance of student engagement in online learning and in teacher education is noted in Chapter Two and Chapter Three. It is important for teacher education programmes to address student engagement. Failing to do this, as Korthagen (2001a) highlights in Chapter Three, can result in the student 'washing out' the learning and knowledge that he or she has acquired in the initial teacher education programme. In online learning, the failure of online learning experiences can be directly related to limited student participation (Palloff & Pratt, 2007). In addressing this, careful thinking needs to be put into the three elements promoted in the CoI

(teaching, social, and cognitive) and the sharing of knowledge in communities. This intervention places a value on interactions amongst teacher educators and student teachers and interactions amongst peers. An emphasis is placed on collaborative activities which will see students engage in activities that are centred on teaching and on children's learning. Through (a) sharing experiences, (b) posing and answering questions about teaching, pedagogy, children's learning, and (c) supporting peers by offering suggestions, a culture of openness, cohesive learning, and the 'deprivatisation of teaching' is facilitated. As synchronous and asynchronous approaches are adopted, there will be key emphasis placed on the design of the online discussion experience. Furthermore, the sharing of knowledge will also be a critical factor. Cochran-Smith and Lytle (2009) warn that communities have become preoccupied with the expert-novice model. However, Kessels and Korthagen (1999, 2001) build on this point and note that teacher educators should share knowledge and provide insights. Therefore, the sharing of knowledge should be focused on the problems that emerge in the students' context. In relation to collaborative problem solving which is perceived as essential in fostering student engagement (So & Brush, 2008), this intervention will draw on the principles of the ALACT model (Korthagen, 2001). As noted by Korthagen and Wubbels (2001) in Chapter Three, the sharing of reflective experience immerses student teachers in problem solving as well as learning from experience and developing reflective skills. Furthermore, enquiry-oriented pedagogies in teacher education, as promoted by Cochran-Smith and Lytle (2009), emphasise intellectually challenging and supportive relationships in communities. The preceding chapter outlined dilemmas around enquiry-oriented pedagogies – the nature of prescriptive enquiry as forcing students to engage for accreditation (Cochran-Smith & Lytle, 2009) and the struggle teachers encounter in having to determine enquiry topics themselves

(So, 2013). Therefore, to keep students engaged, this intervention will employ a dialogic approach where students will be encouraged to focus on topical inquiries which are relevant to their own experiences. Through employing open-ended questioning, all students will be encouraged to participate and offer insights into the topics that emerge.

4.1.4. Critical Thinking

The purpose of this intervention is to focus on developing critical thinking through an integrative process with interactive and collaborative learning approaches. This intervention recognises that individual judgements and reflections about the learning process can contribute to and facilitate learning within the online group. In line with the CoI framework, there will be an emphasis placed on individual (personal) reflection and shared (collaborative) reflection through a structured cyclical inquiry process. Within online learning, internal knowledge construction can be mediated through collaborative learning activities (Akyol & Garrison, 2011; Garrison & Akyol, 2013). Indeed, this point can also be contextualised in teacher education. In the previous chapter, Cochran-Smith and Lytle (2009) have identified linkages between knowledge generation and collaborative teacher enquiry. Korthagen (2001c, 2001d) has also argued that the sharing of reflective experiences with peers and teacher educators can lead the student teacher to develop knowledge around teaching, pedagogy, and learning. In line with the CoI framework, this intervention assumes that the teaching, social, and cognitive presence contributes to the development of metacognition in the online environment. Social presence will provide the appropriate space for students and teacher educators to connect and to explore what others are thinking within the community. The cognitive presence will see students becoming aware with the process and cycle of enquiry and this will provide them with the space

to reflect in a private and in a shared space. The student will be encouraged to draw links between individual and shared reflection in the online discussions. In relation to the teaching presence, the students will be supported and encouraged in fostering an awareness of their metacognition. Emphasis will be placed on this in the asynchronous discussions where students will be invited to reflect on their own teach and reflect on the interactions in the synchronous space.

Arising from the review of literature in Chapter Three, this intervention values that teaching is not mechanical or formulaic and recognises that the nature of teaching involves making decisions that emerge from the learning needs of children in the classroom. In Chapter Three, the concept of adaptive expertise was examined. Duffy (2005) believes that there is a clear linkage between adaptive expertise and metacognition. This intervention sets out to promote adaptive decision making in teaching instead of promoting technical teaching. However, drawing on the discussions around adaptive expertise and metacognition, there needs to be a knowledge base that equips teachers to make decisions. Therefore, students will be encouraged to build on previous school placements and coursework. The role of the tutors in the online environment is to work together with students in a partnership process, intervening and guiding students, and observing and listening. Although this intervention does not set out to make students all-round adaptive experts by the end of the practicum, it sets out to provide student teachers with the ability to approach their work as a "judgement-based endeavour as opposed to a technical task" (Duffy, 2005, p. 308).

4.1.5. Reflection and Enquiry

This intervention values teacher reflection and recognises that reflection and enquiry play an important role in teacher knowledge across the continuum. This

intervention sets out to encourage student teachers to reflect on their teaching, and engage and share their experiences in collaborative spaces. Literature acknowledges that student teachers can find the reflecting on teaching process challenging (McGarr & McCormack, 2014; Zeichner & Liston, 1985). In revisiting the Practical Inquiry model (Garrison, 2011) in Chapter Two and the ALACT model (Korthagen, 2001c) in Chapter Three, this intervention will set out to create a model that encapsulates shared reflection. Furthermore, enquiry as stance (Cochran-Smith & Lytle, 2009) will permeate the experience where the sharing and interrogation of practice generates knowledge of practice.

4.2. Indicative Learning Intentions and Pedagogical Strategies

4.2.1. Learning Intentions

LÍNTE will provide students with opportunities to engage in informed discussion and critical reflection on emerging issues in teaching and learning in the primary school setting. Students will have opportunities to reflect on their own experiences in schools and classrooms and on their efforts to apply a range of pedagogical skills and approaches in their own teaching. Students will be encouraged to share their experiences and reflections and to integrate key ideas from their professional interactions in the virtual space with their daily teaching practice. In addition to this, the students will be encouraged to set goals for themselves in their continuing development as reflective practitioners. By the end of this intervention, the students will be enabled to:

- Set goals for their own learning and development as teachers in primary classrooms;
- Reflect on their developing knowledge, understanding, and commitment to teaching and learning in primary schools;

- Engage in discussion and critical reflection on key elements of good professional practice in the primary classroom.

4.2.2. Pedagogical Strategies

The pedagogical approaches in the synchronous sessions will employ small group participatory dialogic methodologies. Therefore, careful structure and organisation of these sessions is required. Three tutors will be involved in the facilitation of LÍNTE, and 110 students will be undertaking their practicum. All students will be invited to participate in these sessions. To ensure that an emphasis is placed on small-group collaborative activities in the breakout sessions, the organisational structure is presented in Table 4.1. Throughout a 6-week placement (which includes a school-based preparation and debrief week), LÍNTE will be facilitated in live synchronous classrooms (see Table 4.1. for weeks when the live sessions are scheduled). The focus on the first session in Week 1 will present the overview of LÍNTE and afford students with the opportunity to become familiar with the resources. Students will also be invited to raise question that have arisen from the school-based preparation week.

Table 4.1. *Organisation of LÍNTE live (synchronous) sessions*

Day	Weeks	Time	Students in plenary	Students in breakout group
Monday	Weeks 1, 2, 4	5.00pm	15	5
Monday	Weeks 1, 2, 4	5.45pm	15	5
Monday	Weeks 1, 2, 4	6.30pm	15	5
Tuesday	Weeks 1, 2, 4	5.00pm	15	5
Tuesday	Weeks 1, 2, 4	5.45pm	15	5
Tuesday	Weeks 1, 2, 4	6.30pm	15	5
Wednesday	Weeks 1, 2, 4	5.00pm	12	4
Wednesday	Weeks 1, 2, 4	5.30pm	12	4

Each session will commence with a plenary discussion, outlining a short welcome and setting the structure for each session. Between the introduction and breakout session, students will be asked to step away from the screen and reflect on the two key questions which will be used to guide the discussion: (1) an element of the placement that has been going well (which can include a resource, an activity, a lesson, a teachable moment, an experience outside the classroom) and (2) an element of the placement that has been challenging/an issue that has arisen/a question that the student would like to put to the group. Five minutes will be provided to reflect on the questions. Students will then be divided into groups and focus on active discussions around the key issues/themes/questions that are emerging on placement. During this space, a tutor will work in each 'breakout room' and interact with the groups. Students will be encouraged to offer guidance to their peers. There will be an emphasis on student-led dialogue. Tutors will interject and provide feedback, guidance and advice, and consolidate the breakout groups' discussions and subsequent learning. The breakout groups will then reconvene in the plenary session, and the key issues that were discussed in each breakout sessions will be discussed with all participants. On weeks that students are not engaging in the live sessions, students will contribute and engage in an asynchronous discussion forum. Students will be required to: read other participants' postings, ask questions, build on other participants' responses, and provide suggestions that may help other students when postings.

4.3. Technological Considerations

Mason and Rennie (2008, p. 47) point out that "the essence of online collaborative course design is the use of activities appropriate to the subject and level of the learner". When considering technological tools, Mason and Rennie (2008)

advice the online teacher to think of the model in terms of (a) what the online teacher wants the learner to do and (b) what pedagogical tools are available to facilitate the learning activities. Furthermore, when selecting technological tools, it is important that the online teacher recognises the strengths and weaknesses of the resource, and the advantages and disadvantages of the resource. Mason and Rennie (2008) also caution the use of technological tools and online learning for the sole purpose of addressing problems within existing courses. "The introduction of distributed media resources needs to be a way of creating new opportunities for sharing and extending learning, rather than constraining learners into different form of learning participation" (Mason & Rennie, 2008, p. 50). In line with this, the online teacher should also be certain of the educational purpose or goal before the selection of technologies. When using online technologies, it is important that the learners are supported in using these technologies and learners should be familiar with these technologies before engaging in the learning environment.

4.3.1. Synchronous Learning

The use of synchronous learning technologies can provide an interactive learning experience for participants:

> The synchronous voice, text-chat, note-taking, whiteboard, and screen-sharing functionalities provided by systems such as Adobe Connect (Adobe Systems Inc., 2010), Elluminate Live (Elluminate Inc., 2010), and WebEx (Cisco Systems Inc., 2010) provide a powerful suite of tools with which to present information, model processes, and share concepts. However, using tools such as web-conferencing to facilitate learning and teaching is more complex than for asynchronous online learning. (Bower, 2011, p. 63)

Furthermore, Bower (2011, p.63) warns online teachers that an understanding is required in relation to synchronous tools and there is a need for the users to develop "technical and collaborative competencies in synchronous multimodal learning environments". However, the employment of synchronous systems provides an

opportunity for active distance learning pedagogy and constructivist collaborative learning experiences (Bower, 2011; Mason & Rennie, 2008). Studies in synchronous models of communication have found that students are afforded the opportunity to engage in collaborative problem solving, share resources, and make presentations online. In addition, the employment of synchronous communications enables the online teacher to facilitate more effective teaching (Schullo, Hilbelink, Venable & Barron, 2007). Falloon (2011) and Peacock et al. (2012) highlight that students value synchronous classrooms for the following reasons: (1) the synchronous classroom provides the participants with the opportunity to interact with fellow participants in the online environment; (2) the efficiency in synchronous environments enables learners to participate directly with the teacher and affords learners with the opportunity to clarify issues and ask questions without the need to undertake asynchronous communication (such as emails) with the tutor; (3) the features of synchronous environments such as audio and video affords students to be more open as opposed to posting to threads that are subject to critique and review by other participants; (4) engagement in synchronous environments affords participants with the opportunity to experience a range of technologies and approaches in technologies. In applying the benefits of synchronous technologies to the teacher education arena, there are studies which have the explored the effectiveness of synchronous learning environments across the continuum of teacher education. McConnell et al. (2013) explored the effectiveness of synchronous learning environments in the development of professional learning communities (PLCs) to provide a meeting space for teachers to come together to share subject areas and interests, with the intention of improving teaching and learning. The problem that led to this study was that time and distance barriers were preventing teachers from engaging in PLCs. In a comparison to PLCs,

McConnell et al. (2013) note that the facilitators who participated in interviews reported that the discourses in virtual PLCs shared similarities with traditional face-to-face PLCs. When participants became comfortable with synchronous technologies, they moved seamlessly into participating in discussions with peers within the PLC. Participants found that engagement in the synchronous PLC allowed them to share information with peers, develop professional friendships, listen to practical solutions that others have tried, and develop professional discourse.

In employing synchronous technologies, it is also important to identify challenges in using such technologies. In addition to studies highlighting the benefits of synchronous technologies, findings from studies have highlighted issues around the application of synchronous technologies. Bower (2011) highlights that the use of synchronous technologies, such as web conferencing, is more complex than employing asynchronous online learning approaches. Complexities in employing synchronous technologies can include the ability to 'master the tools' and select tools that are appropriate for the learning and teaching (Bower, 2011). The familiarity and ability to adopt and employ such tools in synchronous sessions in the home environment can also present challenges in facilitating synchronous sessions. Interruptions, such as pets, children, telephones, can impact the online meetings (McConnell et al., 2013). Furthermore, it is noted that participants' technological hardware, software, and Internet accessibility can impact the experience in the online meeting. The quality of webcams, microphones, and broadband speeds plays an important in promoting effective discussions as problems such as 'feedback echoes' can be a common occurrence and have an impact on the quality of the online interactions (McConnell et al., 2012). The experience of the participant and his or her attitude towards synchronous technologies can also have an impact on the quality of

online meeting using synchronous technologies. According to Park and Bonk (2007), anxiety and concern around engaging in new learning environments, such as synchronous spaces, can have a negative impact on the student's experience. Students, who are provided with space to become familiar with such technologies, prior to engaging in online meetings, can prove beneficial (Conrad, 2002; Park & Bond, 2007a, 2007b). Park and Bond (2007a) also found in their research, where the researchers employed multiple methods of data collection, that time constraints can also have a negative impact on students' experience in synchronous meetings. As sessions are live and all participants are engaging in real time, participants highlighted that such online sessions were rushed in their discussions, resulting in superficial commentary, and insufficient feedback from the tutor. In order to address this problem, meetings and interactions in the synchronous space can be complimented with pre-discussion meetings where participants have a level of familiarity with other members' artefacts, materials, ideas etc. Therefore, asynchronous approaches, such as a discussion forum will also be considered as a technological tool in this intervention. This asynchronous approach may provide such space to build on and compliment the discussions and focus of the synchronous meetings.

4.3.2. Asynchronous Discussion Forums

According to Mason and Rennie (2008), a forum can be described as a website that is composed as a number of threads where discussions or conversations in the form of posts that are written by participants. A forum consists of many threads, which can be posted in chronological order (flat) or in response to a 'parent post' (threaded) (Mason & Rennie, 2008). In operationalising and administering forums, the forum administrator can edit, delete and modify threads within the forum. In terms of the educational benefits, forums play an important role in distance education as they

provide an environment that supports discussion among students as peers, and among students and teachers (Cheng, Paré, Collimore, & Joordens, 2011). In contrast to synchronous communications, participants are not required to make immediate responses to postings. Cheng et al. (2011) point out that this can have educational benefits as it provides the participant with the opportunity to reflect, structure, and organise their thoughts before making a posting to the forum. Furthermore, the employment of asynchronous technologies in online learning can prove to be a more comfortable experience for the participant as "the focus is often placed on the words in the message with less emphasis on other aspects of communication…students, especially those who are introverted, feel less threatened to express their views or to ask for help from teachers and peers" (Cheng et al., 2010, p. 254). The employment of asynchronous approaches in distance learning can also benefit the more reflective student. Mason and Rennie (2008) note that students are more likely to participate more in asynchronous discussions than in face-to-face interactions. In terms of the challenges and disadvantages in using asynchronous approaches, this approach demands students and online teachers to take self-responsibility in participating in such discussions. Mason and Rennie (2008) point out that students can be distracted from interacting online due to other course commitments and pressures. Furthermore, even though the online forum can be more inviting for the introverted student, and provide an appropriate place to reflect, many students perceive online forums as impersonal where participants are unable to visualise body language and facial expressions. In terms of managing and operationalising forums, this can put increased pressure on the online teacher and the administrator as threads and discussions can become disjointed and confusing for participants to follow (Mason & Rennie, 2008). Even though postings can be read by others and the thoughts can be analysed and

interpreted and can provide a platform for future discussions, the permanency of such postings can lead to anxieties amongst participants. In addition to this, the online teacher needs to ensure that there is active participation within the forum. Mason and Rennie (2008, p. 91) note: "Obtaining equable participation from all students is the ideal, but it is rarely reached. There are too many extenuating circumstances which account for the fact that most online forums are dominated by a sub-set of the students, though messages may be read my many more".

In addressing the benefits and challenges in employing asynchronous approaches, Nandi, Hamilton and Harland (2012) conducted research that focused on what students and teachers perceived as quality interaction in asynchronous discussions. Adopting a qualitative methodology and approach to data analysis, Nandi et al. (2012) outlined recommendations to promote and furthermore evaluate good practice in promoting interactions in online asynchronous forums. In relation to the design of forums, students should have guidance on what is expected of them. To support this, Nandi et al. (2012) create a framework to provide such guidance to students. In terms of asking and answering questions, questions posed by students should lead to or trigger discussions, and should be drawn from experience and realistic situations. Questions answered should be supported with reference to examples, links and justifications. In terms of justification, students should also be encouraged to draw on examples or apply their existing knowledge to the discussions. In relation to the postings, students should be articulate in their postings and expand on ideas etc. Students should recognise that they belong to and are contributing to a community of learners, and should work collaboratively to seek solutions and develop new ideas.

In relation to the role of the online teacher in asynchronous discussions, Nandi et al. (2012) point out that he or she plays an important role in initiating and leading discussions. Similar to synchronous technologies, the online instructor should provide a space for the participants to become familiar with the environment and students who are experiencing difficulties should be provided with administrative guidelines. The online tutor should also outline expectations from the outset. "This declaration may consist of directions regarding how many and how often students should post in the discussion board, what should be the pattern of their contribution, how the students should approach the subject, and in general what is expected of them" (Nandi et al., 2012, p. 23). In relation to the pedagogical roles, the online tutor should also participate in the posting by clarifying questions and problems, periodically intervening to extend discussions, promote deeper learning, and raise questions. The online tutor should also provide feedback to the group and motivate students to engage and to build a sense of community. As Cheng et al. (2010) point out, feedback from both peers and teachers is crucial in relation to learning and through interactions and feedback where knowledge is constructed and shared in a collaborative enterprise.

4.4. Conclusion

This chapter presented an overview of the intervention, which has been designed by building on the review of policy and literature in online pedagogy and in teacher education. To capture the key concepts that have emerged from the review of literature, five theoretical principles were put forward that would guide in the design, implementation and evaluation of this intervention. In addition to this, indicative content and pedagogical approaches were outlined, though it has been highlighted that findings from the empirical investigation would inform the content of the intervention. The technological tools that will support the dialogue within the online environment

were discussed and the benefits and challenges in using these tools were identified. Arising from this chapter, an overall conceptual framework underpinning the design of LÍNTE, alongside setting the roadmap for the empirical element, is presented (see Table 4.2). Chapter Five presents the research methodology which focuses on the formative evaluation of this intervention, and therefore, sets the scene for the empirical process that will take place during- and post-implementation of LÍNTE.

Table 4.2. *LÍNTE: Conceptual framework*

Design of LÍNTE

Theoretical Principles

(informed by concepts and theoretical frameworks in the online and teacher education literature)

Dialogue and Open Communication ↑ | Co-Construction of Knowledge ↑ | Student Engagement ↑ | Critical Thinking ↑ | Reflection and Enquiry ↑

Knowledge generation in an online hybrid community which values constructivist collaborative learning

Overarching Aim

Participate in reflective and enquiry based learning around their experiences in the primary classroom by engaging in ongoing discussion

Learning Intentions

- Set goals for their own learning and development as teachers in primary classrooms
- Reflect on their developing knowledge, understanding, and commitment to teaching and learning in primary schools
- Engage in discussion and critical reflection on key elements of good professional practice in the primary classroom

Pedagogical Strategies

Synchronous sessions

- Open session outlining the structure (plenary)
- Opportunity to reflect on the key questions guiding the discussion (independent task)
- Focus on active discussions around the key issues/themes/questions that are emerging on placement (breakout sessions)
- Input from tutors where necessary (breakout sessions)
- Closing session consolidating the key learning (plenary)

Asynchronous sessions

- Revising how students have addressed previous issues
- Opportunity to seek further clarification from peers and tutors

Organisational Factors

- Small group sessions (no more than 6 students in each breakout session)
- Three tutors (cooperating teachers and HEI tutor)
- 30-40 minute sessions per group of 15 students

Resources

Adobe Connect Classroom

- Audio microphone
- Live text chat feature
- Screen sharing feature
- Whiteboard feature

Moodle Discussion Forum

↓ ↓ ↓ ↓

Implementation of LÍNTE

↓ ↑ ↓ ↑

Research/Evaluation of LÍNTE

Methodological Orientation

Design of Data Collection Instruments

Collection and Analysis of Data

Interpretation, Reporting and Presentation of Findings

Considerations for Future Development and Re-Design

Please Note:↓↑ - This indicates that the Implementation phase and elements of the Research/Evaluation phase are concurrent

CHAPTER FIVE: METHODOLOGICAL ORIENTATION, RESEARCH DESIGN AND METHODS OF DATA COLLECTION

This chapter presents the methodological orientation, research design and approaches to data collection that was employed in this study. The chapter begins with identifying the philosophical assumptions that underpin this study. Building on this discussion, the methodological orientation of the study and the justification for a qualitative research approach is discussed. Arising from the research problem and aims, the chapter identifies the overarching research question. Furthermore, supporting questions are also presented. The rationale and justification for the research approach and data collection instruments is presented alongside the discussion of the intended population and sampling strategies. The procedure around conducting data analysis is also explained. The nature of rigour and trustworthiness in qualitative research is explored along with how I set out to address this in the collection of data, in the analysis of data, and in the interpretation and reporting of the research findings. The chapter concludes with a focus on the importance of research ethics and how ethical protocols were adhered to from the outset of this study.

5.1. Revisiting the Research Questions

In Chapter One, the research problem and justification for undertaking this study was explored. The, purpose of this study was to document the design, implementation and evaluation an online hybrid space. Arising from this, the research questions for this study were as follows:

Research Question 1 (RQ1)	What were the theoretical principles that underpinned the development of the intervention

	and how were they incorporated into the design of the intervention?
Research Question 2 (RQ2)	How did the student teachers view and respond to the intervention?
Research Question 3 (RQ3)	What were the main issues and concerns of the students as they engaged in the intervention?
Research Question 4 (RQ4)	What features of this online intervention promoted students' knowledge of and for practice?
Research Question 5 (RQ5)	How did interpersonal relationships and dynamics influence the learning process and outcomes in the intervention?

As alluded to in Chapter One, the first research question has been addressed in the previous three chapters. The theoretical principles have been made apparent in the Chapter Four and have been developed from the review of literature in Chapters Two and Three. Research Questions 2, 3, 4, and 5 sought to explore the perspectives of the participants as they engaged in the intervention, the nature of the issues that student teachers brought to LÍNTE, the relationships between participants and how these relationships influenced the learning process, and the learning and knowledge generation that occurred in this online hybrid space.

5.2. Research Design

The research approach that was adopted for this study was qualitative. A qualitative research design was considered most appropriate as this methodological approach was exploratory and descriptive in nature and values the research setting, the context, and the participants (Marshall & Rossman, 2006). Furthermore, qualitative research is interactive in its nature, where the researcher is involved in the field and

engages interactively with the participants. The researcher makes meanings, through interpretations, as he or she moves through the research (Rossman & Rallis, 2012). The qualitative researcher comes to understand reality through personal experiences, interactions, and discussions. Maxwell (2005) identifies that qualitative research is a methodological approach when the researcher wants to understand the meaning of the participants in the study i.e. the meaning of events, situations, and experiences. "In a qualitative study, you are interested not only in the physical events and behaviours that are taking place, but also in how the participants in your study make sense of these, and how their understandings influence their behaviour" (Maxwell, 2005, p. 22). This study set out to explore if and how an online intervention supported student teachers as they engaged in school placement. I took an active role in this research process where I engaged with participants throughout the implementation of the intervention, and in the research, that took place following the intervention. Initially, in considering the methodological orientation, a mixed methods study, combining qualitative and quantitative approaches seemed appropriate. However, as the study developed and the research problems and aims were identified, it became apparent that qualitative research was best suited to this study for the following reasons:

- Qualitative research tends to focus on natural settings where the participants experience an issue or intervention that is being studied. As Creswell (2007, p. 37) notes: "this up-close information gathered by actually talking directly to people and seeing them behave and act within their context is a major characteristic of qualitative research". The purpose of my own research was to capture the experience of the participants as they engaged in LÍNTE. Through taking an active participatory role, a close-up experience of what was occurring in the setting was captured;

- In qualitative research, the researcher is active in the data collection process and need to be reflexive in the process. Rossman and Rallis (2012) note that in qualitative research, reflexivity occurs when the researcher reacts to participants' actions and words through observations and interviews. The researcher draws from his or her 'theoretical orientation' to describe the actions that are being observed. In addition, the participants in the study react to the presence of the researcher. "By your mere presence, you become a part of their social world, and they (the participants) modify their actions accordingly. The more you appear to be like the members of this social world or the longer you stay in it, the less your presence may affect the everyday routines" (Rossman & Rallis, 2012, p. 47). Within this study, my role as participant observer was key in the data collection process. By observing in the field, reflexivity occurred in light of the interactions and issues that emerged, particularly during the observation phase;
- Qualitative research is emergent in its design i.e. the plan for research cannot be too prescriptive in its design. Emergent research designs allow for changes or shifts in the research phases. For examples, interactions that occurred in LÍNTE guided the interview schedules;
- Qualitative research typically involves the gathering of multiple sources of data. The use of multiple methods can provide a more in-depth exploration into issues as they emerge in the study. Interviews set out to build on what was discussed in the live sessions and posted in the forum;
- In employing qualitative research for evaluation purposes, the researcher is not just evaluating the outcomes of a programme (Maxwell, 2005). The qualitative researcher is not merely concerned with what works but why it works and the

underlying factors that make it work. The aim of this research was to unpack the participants' engagement in this intervention (participants' perspectives of the intervention, the issues that were discussed and raised, the extent that it supported them during their placement experience). Maxwell (2005, p. 23) refers to this as 'causal explanations' where the researchers tends to ask "how x plays a role in causing y, what the process is that connects x and y (causal linkage)".

In addressing the nature of qualitative research, factors such as relationships between the knower and the known (Marshall & Rossman, 2006; Woods, 2006), the role of values in conducting research (Maxwell, 2005; Woods, 2006), and issues around generalisation were addressed. In embarking on this study, it was important to acknowledge that findings from this study could not be generalised to the broad population (Punch, 2005). This research study was focusing on a specific situation and a specific context. The nature of the population and sampling procedures will be discussed at a later point in this chapter. In employing a qualitative approach, multiple roles and values associated with qualitative research were also acknowledged and addressed. Issues around personal biases were addressed in the research. My role as researcher, the nature of personal bias (Robson, 2011), and the values (Maxwell, 2005; Rossman & Rallis, 2012) that I brought to this study are explicitly discussed at a later point in this chapter.

5.3. The Philosophical Assumptions Underpinning this Study

Cohen, Manion and Morrison (2011, p. 6) outline the need for the researcher to "not only consider the nature of the phenomenon under study, but what are or are not the ontological premises that underpin it, the epistemological bases for investigating it and conducting the research into it". By placing considerable thinking and reflection

into the above, this turns the "plan of research from being solely mechanistic or practical exercise into a reflection on the nature of knowledge and the nature of being". McKenzie (1997, p. 9) point outs:

> For researchers, two questions are key: What is the relation between what we see and understand [our claims to 'know' and our theories of knowledge or epistemology] and that which is reality [our sense of being or ontology]? In other words, how do we go about creating knowledge about the world in which we live.

Grix (2004) maintains that there are four building blocks of research which are all closely related and linked; ontology, epistemology, methodology and the sources of data collection. This view is corroborated by Hesse-Biber and Leavy (2011) who further suggest that the ontological and epistemological assumptions inform the methodological and methods decision. Ontology deals with assumptions which are "concerned with the very nature or essence of the social phenomena under investigation" (Cohen et al., 2011, p. 6). The ontological perspectives of researchers can be very different. Hesse-Biber and Leavy (2011) discuss that certain researchers see the social world as 'patterned and predictable' while others see the social world as "continually being constructed through human interactions or rituals". Furthermore, the researcher's ontological assumptions have an impact on the framing of the research design, selection of methodology, and the framing of research questions (Cohen, Manion, & Morrison, 2011; Creswell & Clark, 2007; Creswell, 2009; Hesse-Biber & Leavy, 2011; Robson, 2011). In dealing with the nature of reality, all participants (including myself, as participant and as researcher) in this study brought different meanings, experiences and interpretations to the study, and this is illuminated further in the findings. Therefore, a relativist ontology, which is characterised as the recognition of multiple realities, underpinned this study. Creswell (2007) points out that researcher who embraces a relativist ontology can capture and embrace different

realities through using qualitative approaches. This can include the use of quotes from different individuals can present different perspectives, meanings and interpretations. Epistemological assumptions are concerned with "the very bases of knowledge – its nature and forms, how it can be acquired, and how communicated to human beings" (Cohen et al., 2011, p. 6). Similar to ontological perspectives, there are distinctions between views of knowledge:

> How one aligns oneself in this particular debate profoundly affects how one will go about uncovering knowledge of social behaviour. The view that knowledge is hard, objective and tangible will demand of researchers an observer role, together with an allegiance to the methods of natural science; to see knowledge as personal, subjective and unique, however, imposes on researchers an involvement with their subjects and a rejection of the ways of the natural scientist. (Cohen et al., 2011, p. 6)

In reflecting on the epistemological bases that underpin this study, I came to understand the experiences of the participants through taking an active participatory role in the research. Creswell (2007) notes that research in the 'field' enables the researcher to (a) get close to the participants that are being studies and (b) by experiencing and engaging in the 'field', the researcher can come to understand what the participants are saying. In conducting research, the researcher generally reflects on the ontological assumptions when choosing the research methodology. Creswell (2007, p. 19) believes that "after researchers make this choice, they then further shape their research by bringing to the inquiry paradigms or worldviews". Therefore, the next section deals with the nature of the worldview and the set of beliefs that will be brought to this study.

5.4. Adopting a Social Constructionist Stance

The importance of the use of paradigms or worldviews (Creswell, 2007) or interpretive frameworks (Guba, 1990) have been promoted in social research, particularly in qualitative research. According to Robson (2011), there are various

worldviews or paradigms in qualitative research. Creswell (2007, p. 19) also acknowledges that there is a variation in paradigms underpinning qualitative research but suggests that "individuals may also use multiple paradigms in their qualitative research that are compatible, such as constructionist and participatory worldviews".

The social constructionist viewpoint has become 'mainstream' in qualitative research (Robson, 2011) Constructionism is defined by Crotty (2003, p. 42) as a "view that all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essential social context". Crotty (1998) and Robson (2011) point out that constructivism focus on how the individual engages in mean-making, while constructionism focuses on "the collective generation [and transmission] of meaning" (Crotty, 1998, p. 58). In constructionism, the social dimension is central where human beings construct meaning and interpret the world in which they live. Robson (2011, p. 24) points out that "the task of the researcher is to understand the multiple social constructions of meaning and knowledge". Through using qualitative approaches, such as interviews and observations, the researcher will be enabled to acquire these "multiple perspectives" from the participants (Robson, 2011, p. 24). In this study, the social dimension affiliated with social constructionism was critically important. This research set out to explore how an intervention supported student teachers during a school placement period and how knowledge was generated and constructed as participants engaged in this activity. From an empirical perspective, the use of qualitative approaches further illuminated the students' experience, the strengths and limitations of the intervention, and suggestions for future innovation and design.

Researchers that take a participatory worldview set out with "an action agenda for reform that may change the lives of participants, the institutions in which they live and work, or ever the researchers' lives" (Creswell, 2007, p. 21). The research provides a voice for the participants and sets out to improve the conditions for participants. Creswell (2007) and Kemmis and Wilkinson (1998) point out that participatory research sets out to bring about changes in practice (often begins with an identification of a research problem) and is practical and collaborative i.e. working in a collaborative relationship with the participants. Although the 'purist' participatory worldview posits that such research sets out to (a) address social issues, such as oppression and marginalisation and (b) improve the lives of the participants through action (Creswell, 2005). It can be argued that characteristics of the participatory paradigm were applicable to this research study. The study set out to improve the support structures for student teacher during extended periods of school placement and builds on the 'voice of the participant' into shaping and developing online support during school placement. Although this may not be categorised as 'social issues', the intent of the research was to support student teachers' during the school placement experience, which is an integral element of the students' initial teacher education experience.

5.5. Identifying a Qualitative Research Approach

Creswell (2007) notes that there are five main qualitative approaches: ethnography; case studies; grounded theory, phenomenology; narrative research. In selecting an appropriate qualitative approach to this research, the five approaches were considered. Table 5.1. outlines the strengths and limitations of each approach in respect to this research.

Table 5.1. *Choosing a qualitative research approach* (adapted from Creswell, 2007)

Research Approach	Description of this Approach	Strength	Limitation
Phenomenology	Concerned with human experience and how things are experienced by participants. Meaning and events are interpreted by social interactions	Focuses on the meanings and interpretations that emerge as participants engage in LÍNTE	Emphasises description of the experiences. However, as the research questions illustrate, there is more to unpack in this study than description; understanding elements of the intervention that worked/did not work
Ethnography	Ethnography places a value on describing a cultural group, how they work, their beliefs, and the influences of power and behaviours on this group	Much to offer as this values the 'lived experience' where the researcher inhabits the natural setting in which the research takes place	Very much allied with anthropology. Predominately used for research emancipation for marginalised groups
Grounded Theory	The process where theory is generated as the researcher becomes more grounded in the data as it develops	Flexible process where the researcher is gathering data and generating theory that is central to the phenomenon i.e. LÍNTE	The process involves data gathering at the outset, where data is further informed by the literature review. This study draws on existing theoretical frameworks, which inform the intervention design and the research process
Narrative	Describes the lives of individual, by detailing stories and accounts, and reporting individual experiences	Opportunity for students to tell their stories in relation to their experience of LÍNTE	Typically focuses on an in-depth account of an individual e.g. life history approach. With this intervention, multiple participants engaged and this exclusively focused

			on their experience with LÍNTE
Case Study	Aims to understand a case in-depth and investigates a phenomenon within its real-life context. Focuses on process and outcomes	Enables the researcher to understand the process and outcome of LÍNTE; the phenomenon under investigation	Findings are bound to the specific context and cannot be generalised to the wider population

5.5.1. A Case Study Design

Arising from the five qualitative approaches discussed in Table 5.1, a case study design has been deemed most appropriate to this study. However, elements of the other qualitative approaches are applicable to this research. For example, there was an element of phenomenology, where there is a focus on human experience, and the interpretations and meanings that occur as the participants engage with LÍNTE. The case study approach is common in the education field (Bassey, 1999; Bogdan & Biklen, 2002, Creswell, 2005; Hatch, 2002; Merriam, 1998). Cohen et al. (2011) note that a significant strength of case study research is that it establishes causes and effect, and it enables the researcher to observe such effect in real contexts. Furthermore, case studies contain elements of evaluation, which were strongly linked to this research (Merriam, 1998; Robson, 2011). In reviewing the literature around case study research, I drew initially on the wider body of research around case studies, and then focused on the work of three prominent case study methodologists, namely Merriam (1998), Stake (2002) and Yin (1995). Merriam's (1998) definition and description of a case study was applicable to this study for the following reasons. Merriam (1998, p. xiii) defines a case study as "an intensive holistic description and analysis of a bounded phenomenon such as program, an institution, a person, a process, or a social unit", while defines the case as "a thing, a single entity, a unit around which there are

boundaries" (p. 27). In terms of the bounded context, this was the HEI in which the research took place. The phenomenon under investigation was LÍNTE - how participants interacted in this online environment, and how this environment supported student teachers during a period of school placement. The phenomenon was bound to one setting, over a specific time-period (a six-week period of school placement). Merriam (1998) argues that there are three defining features of case studies. First, case studies are particularistic. This means that there is a focus on a particular situation. In the case of this study, the case being LÍNTE, was an online intervention which supported particular students on a programme within a HEI. Second, case studies are descriptive, where "the end product of a case study is a rich, 'thick' description of the phenomenon under study" (Merriam, 1998, p. 29). The qualitative approach to research results in 'description' of the phenomenon being investigated. Finally, case studies are heuristic, meaning that the case study develops the reader's understanding of the phenomenon under investigation. Hence, the reader can explore the reason for the problem, the background, why the intervention worked or failed to work. In this study, the reader gains an insight into the background that led to this study, the justification for creating LÍNTE (arising from the policy and local context), the features of the design (the literature review and the formulation of theoretical principles), what happened (the experience of those interacting in LÍNTE), and from this, potential future application.

In determining a case study design that was most appropriate to this study, I also drew primarily on the work of Merriam (1998) for the following reasons:

- In terms of the epistemological underpinnings of case study research, Merriam argues that "reality is constructed by individuals interacting within their social worlds" (Merriam, 1998, p.22). Merriam's position towards understanding

social constructed meaning leads her to advocate qualitative research. Other methodologists such as Yin (2002) do not privilege qualitative or quantitative approaches thus, the philosophical assumptions underpinning my own research are very much aligned with the views of Merriam (1998);

- The guidelines by Merriam (1998) around designing qualitative research are clearly mapped out. Merriam discusses the importance of identifying a research problem, which Chapter One in this study set out to do. A literature review and the construct of a theoretical framework is recommended, as has been set out in Chapters Two, Three and Four. In light of the literature and research problem, an appropriate sample was chosen and research instruments should be carefully designed. Like Stake (1995), Merriam (1998) describe the importance of flexibility in the research and thus, endorses emergent research designs. A flexible emergent research design was important in this study as it allowed me build on preliminary findings that emerged in the observations and forum postings, and probe these further in the interviews;
- The position of Merriam (1998) towards constructivism is also evident in her position towards data analysis. She describes the importance of "making sense out of the data" which "involves consolidating, reducing, and interpreting what people have said and what the researcher has seen and read – it is the process of making meaning" (p. 178). Furthermore, she advocates multi-layered data analysis, which should be emergent. Preliminary analysis of data should take place throughout the research as this allow the researcher to make alterations and iterations for the next phase of the research.

5.5.2. Adopting Principles of Action Research

Alongside case study research, I felt that principles of action research were also appropriate to this study. Although I did not adopt a purist action research approach, there were elements of this methodology that were relevant to this research. Within the educational research field, there are numerous definitions and descriptions around the true nature of action research (Carr & Kemmis, 1986; Elliot, 1991; McNiff, 2013). O'Leary (2004) wrestles with various debates around what action research should or should not be, by identifying tenets of action research that can support studies in producing knowledge and generating change. Robson (2011) also argues that action research is predominately concerned with improvement: improving practice; improving practitioners' understanding of practice; improving the situation where practice takes place. O'Leary (2004, p. 139) defines action research as a "strategy that pursues action and knowledge in an integrated fashion through a cyclical and participatory procession". In examining the principles, as discussed by O'Leary (2004), these principles were deemed appropriate for this study for the following reasons:

- According to O'Leary (2004), action research is concerned with real problems and situations where a specific problem is identified in a specific context. "Action research is often used in workplaces where the ownership of change is a high priority or where the goal is to improve professional practice". In reflecting on my own study, the problem is made apparent in Chapter One of the study (the extension of school placement and the need to employ online and distance learning approaches to support student teachers' learning during school placement);

- Action research is reliant on knowledge production to bring out about change. Additionally, it also relies on change to produce or generate new knowledge. Hence, there is a rejection of the 'knowledge first, change second' approach and it places a value on the integration of knowledge and change (O'Leary, 2004). This viewpoint is closely aligned with the knowledge of practice concept (Cochran-Smith & Lytle, 1999, 2009). As a teacher educator and a practitioner in the field, the review of literature has led to the acquisition of knowledge in online and distance learning and in teacher education. Furthermore, this review of literature and theoretical frameworks have contributed to the theoretical principles, which have informed the design of LÍNTE;
- Alongside knowledge generation, an important goal of action research is to enact change and bring about improvement in practice. This study strives to provide an appropriate online space, using synchronous and asynchronous technologies, so that student teachers and teacher educators can reflect on the issues in teaching during a period of school placement;
- The 'democratization' or 'collaborative nature of research' is recognised as a central tenet of action research (Bassey, 1998; Kemmis & McTaggart, 2005; McKernan, 1991; Robson, 2011). "Action research works with, rather than on or for, the 'researched, and is therefore often seen as embodying democratic principles" (O'Leary, 2004, p. 140). The collaborative nature of action research is varied and is dependent on the nature of the study. The democratic nature of action research seems appropriate to my own study. As discussed at an earlier point in this chapter, the study has adopted a social constructionist participatory stance - teacher educators, cooperating teachers and student

> teachers working in collaboration and constructing knowledge through discussion and interaction. The role of the researcher in action research is to facilitate change which will involve various roles such as planner, leader, facilitator, teacher, designer, listened, observer and reporter.

Although there is a plethora of literature which promotes the use of action research (Elliot, 1991; McNiff, 2013; McNiff & Whitehead, 2011; Tripp, 2003), there are limitations identified in the employment of this approach. O'Leary (2004) points out that it can be challenging for the researcher to manage the pace of the project. McNiff (2013) cautions the novice action researcher to stay small and focussed throughout the research journey, to be guided by clear research questions, and be realistic on what can be achieved within a timescale. There can be political and institution challenges for the researcher where stakeholders within the organisation can be resistant to change (Cohen et al., 2011). Facilitating collaboration can also prove problematic as the democratic nature can be challenged by behaviours such as overpowering individuals (O'Leary, 2004). This can damage the collaborative process and participants may feel ignored or unheard. In addressing this challenge, O'Leary (2004) maintains that it is important for the researcher to be clear around the involvement of stakeholders though the process as the participation of stakeholders is varied and based on the adopted research approaches. In conducting action research, the researcher must carry the burden of ethical responsibility (O'Leary, 2004). The issue of research ethics is dealt with at a later point in this chapter. Cohen et al. (2011) and Winter (1982) note that action research can present problems for the researcher during the data analysis and interpretation stages. The problem for action researchers are guided in collecting data and accounts of the events throughout the research

process. In addressing such dilemmas, a section in this chapter deals with the validity, reliability, and trustworthiness and rigour and how this was maintained in the research.

5.6. Sampling Procedure

The sampling plan used for this study was purposive sampling. "The selectivity which is built into a non-probability sample derives from the researcher targeting a particular group, in the full knowledge that it does not represent the wider population; it simply represents itself" (Cohen et al., 2011, p. 155). In purposive sampling, the researcher handpicks the cases to be included, based on his or her judgements of what he or she deems important or satisfactory to the specific needs of the study. This type of sample is deliberately selected. In determining the most suitable and appropriate purposive sampling procedure, maximum variation sampling was determined as most appropriate (Cohen et al., 2011). This involves selecting diverse cases from the population to generate rich data. The following criteria were used: (1) Gender; (2) Age; and (3) School Placement Context (see Table 5.2). Students' prior school placement outcomes was also initially considered as a criterion. However, a pass/fail grade had been awarded and therefore the sample could not include a criterion around prior school placement experience. This study was qualitative in nature where multiple methods of data gathering was employed. Therefore, to avoid data saturation (Robson, 2011), the recruitment of research participants merited careful consideration. Fifteen student teacher participants from a population of 110 students were initially invited to engage in the study. Students received a plain language statement and consent form, which included a return date (see Appendix 9). Twelve students responded within the date specified. Out of the three students who did not respond, one student deferred the placement, and two students responded after the data gathering process had taken place. Based on the preliminary data analysis, I felt that there had been sufficient data

gathered. I contacted the two students and notified them that the data gathering process had concluded and I thanked them accordingly.

Purposive sampling was also employed in selecting and recruiting tutors to (a) work with students in LÍNTE and (b) participate in the empirical process, namely interviews. First, cooperating tutors working in partnership schools were selected. The main reason was that these schools had received sustained professional development around working in collaboration with student teachers (Martin, 2011) and frequently hosted students on a year-to-year basis. Second, a cooperating teacher from an immersion school (Gaelscoil) was selected to support students in immersion contexts. Caoimhe was the school placement coordinator in her school, and had engaged in the HEI partnership with schools project (Martin, 2011; Ní Áingléis, 2009), as a student teacher and cooperating teacher. Caoimhe was teaching in a Gaelscoil in west Dublin. Jenny was teaching in a vertical urban mainstream school in north Dublin. She was also actively involved in the partnership project, as a student and cooperating teacher. Furthermore, Jenny was involved in mentoring newly qualified teachers, and had received professional development as part of Droichead (Teaching Council, 2016a) (see Table 5.3). The two tutors were initially contacted by telephone in September 2015. The tutors attended an initial meeting, and agreed to work as online tutors in LÍNTE and participate in the research. A plain language statement with a consent form was issued to the two tutors (see Appendix Ten).

Table 5.2 *Student teacher participants*

Student (Pseudo)	Gender	Age Profile	School/Class Context
Andy	Male	20-29	Multigrade
Avril	Female	20-29	Singlegrade
Fiona	Female	20-29	Gaelscoil/ Singlegrade
Grace	Female	30-39	Singlegrade

Jane	Female	20-29	Gaelscoil/ Singlegrade
Ken	Male	40-49	Multigrade
Lisa	Female	30-39	Singlegrade
Mary	Female	20-29	Multigrade
Mike	Male	20-29	Singlegrade
Niall	Male	20-29	Singlegrade
Paul	Male	40-49	Multigrade
Ross	Male	20-29	Multigrade

Table 5.3. *Cooperating teacher (tutor) participants*

Tutor (Pseudo)	Gender	Experience	Background
Caoimhe	Female	10 years	Teaching in a Gaelscoil in west Dublin Post of responsibility as school placement coordinator in the school Previous ITE experience. Associate lecturer in Teagasc na Gaeilge (Teaching of Irish) Received CPD in working in collaboration with student teachers (HEI partnership with schools project). Involved as a student teacher in this project
Jenny	Female	10 years	Teaching in a vertical mainstream primary school in north Dublin Received CPD as a NIPT associate Involved in Droichead and received relevant CPD Received CPD in working in collaboration with student teachers (HEI partnership with schools project). Also, was involved as a student in this project

5.7. Generalisation

It is important to address the issue of generalisation in the research. In terms of internal generalisation, the student teacher participants in this research were studying on a 2-year consecutive ITE programme (Professional Masters of Education programme). Therefore, the experiences of students who were studying on a different ITE programme. For example, findings from the concurrent BEd programme may have been different and factors such as the students' stage in the programme, prior experience, and the nature of the placement should be taken into consideration. The tutors involved in this intervention have specific expertise around partnerships and working with student teachers i.e. the two practising teachers have been actively involved in CPD with the HEI around school-university partnerships (see Martin, 2011) and the teacher educators have specific expertise in mentoring and placement. Therefore, the findings from this study cannot be generalised to all teachers who work with students. According to Robson (2011, p. 160), external generalizability may not be an issue as "it very rarely involves the selection of a representative (let alone random) sample of settings from a known population which would permit the kind of statistical generalization typical of survey designs". The sample cannot select the wider population beyond the research setting. Withstanding this, it can be argued that the findings from this study has potential relatability to other providers of teacher education, particularly in the Irish context. As alluded to in Chapter One, all providers of initial teacher education in Ireland are required to subscribe to the common criteria of the Teaching Council (2011b). As part of this, students are expected to engage in increased periods of school placement. Support from the HEIs and opportunities for reflection and enquiry should also constitute this experience. This study illustrates the

employment of such approaches in an online context. Therefore, the findings from this study can relate to other ITE providers, such as the complexities that arise in student teachers' practice in classrooms, resourcing issues, and pedagogical approaches in online teacher education.

5.8. Data Collection Approaches

5.8.1. Interviews

Cohen et al. (2011, p. 349) propose that the "use of the interview in research marks a move away from seeing human subjects as simply manipulative and data as somehow external to the individuals, and towards regarding knowledge as generated between humans". Kvale (2007, p. 12) points out that interviews in qualitative research "encourages the subjects to describe as precisely as possible what they experience and feel, and how they act". Within case study research, Merriam (1998, p. 72) argues that case studies can be the best technique when undertaking 'intensive case studies and "the decision to use interviewing as the primary mode of data collection should be based on the kind of information needed and whether interviewing is the best way to get it". Arising from this, interviews were the primary mode of data collection in this research. In light of the research questions, the rationale for selecting interviews as a primary data collection method study was to unpack the student teachers' experience of LÍNTE, and how it supported them on school placement. Furthermore, interviews with the tutors also took place to investigate their experiences and perspectives of this intervention Although interviews were the primary data collection methods, other methods of data collection occurred. This is encouraged in research. Interviews are commonly used with a combination of other research methods and the interview can be used in a post-intervention to "help

incorporate the participants' perspective into the findings, possible helping them to explain" (Robson, 2011, p. 279).

For the interviews with student teachers, a semi-structured interview approach was adopted in this study. This provided me with the opportunity to probe or follow up on students' previous forum postings, and revisit points that were recorded in the observation schedules. Furthermore, it provided me with the opportunity to build on students' responses, that may not have been anticipated when designing the interview schedule (Kvale & Brinkmann, 2009; Robson, 2011). The interview schedule with students built on the following areas: (1) key concepts in the literature and the theoretical principles, (2) the research questions, and (3) preliminary findings that emerged in the observation of the sessions and in the forum postings. Examples of topics that were probed in the interview included: (1) if and how LÍNTE supported student teachers, (2) the issues that were raised in the group, (3) the issues the particular student raised in the group, (4) time and organisation factors, (5) perceptions of synchronous and asynchronous learning, and (6) recommendations for future improvements (a full schedule of the interview for student teachers is available in Appendix One). Interviews took place after the six-week placement. It was decided that interviews would be on a one-to-one basis for the following reasons. First, as a participant observant and insider researcher, I was concerned that student initially might be apprehensive to share their experience in a group setting, and that a group focus would perhaps limit opportunities in investigating each student teacher's experience of LÍNTE. Second, one-to-one interviews maintained confidentiality for the participant, and provided a safe space for the student to disclose their experience of LÍNTE. In terms of piloting the interview questions for student teachers, the questions were piloted with four final-year BEd students.

Semi-structured one-to-one interviews took place with the two cooperating teachers (online tutors). These interviews took place in the cooperating teachers' schools, and took place at the end of the school day. The time and day was agreed in advance. Adopting a semi-structured approach afforded me the opportunity to build on the tutors' responses. The focus of the interviews with the tutors captured the key concepts explored in the literature, the research questions, and observations that emerged during the intervention. Certain topics explored in the interview included: (1) their experience of engaging in the sessions, (2) their role in the sessions, (3) issues and challenges that emerged, (4) issues that their groups raised and how they addressed these, (5) professional development sessions prior to the intervention, and (6) suggestions for future development (see Appendix Two). The interview schedule for the tutors was piloted with a cooperating teacher who had experience in online teaching and learning. Interviews with student teachers and tutors were audio-recorded on a digital device. To immerse myself in the data and develop familiarisation, I transcribed all interviews. The average duration for each interview was around 45 minutes. Further information around ethical considerations are discussed at a later point in this chapter.

5.8.2. Observation

Observation was also used as a method of data collection. Observations are widely used in research as it offers the researcher with the opportunity to gather 'live data' in natural settings (Cohen et al., 2011). "The use of immediate awareness, or direct cognition, as a principle method of research this has the potential to yield more valid or authentic data than would otherwise be the case with mediated or inferential methods (Cohen et al., 2011, p. 456). In terms of the focus of the observation, participant observation was the preferred approach within this study. This enables the

researcher to "understand the culture, setting, or social phenomenon being studies from the perspective of the participants". The participant-as-observer, who is part of the social experience, records and documents what is happening. Cohen et al. (2011, p. 465) note: "By staying in a situation over a long period the researcher is also able to see how events evolve over time, catching the dynamic of situations, the people, the personalities, contexts, resources, roles, etc.".

Field notes were recorded at the end of each session over the 6-week intervention. The composition of such field notes drew on the guidance of Bogdan and Biklen (2002, p. 110) where the researcher "renders a description of people, objects, places, events, activities, and conversations. In addition, as part of such notes, the researcher will record ideas, strategies, reflections, and hunches, as well as note patterns that emerge". An observation schedule was compiled that drew in on the recommendations from Bogdan and Biklen (2002). This observation schedule provide structure in writing up the field notes at the end of each session (see Appendix Three). At the outset, I wanted to ensure that my field notes would not just focus on description, but would provide me with an opportunity further to analyse and interpret the online live sessions. Therefore, prompt questions were compiled that allowed me to describe the experience, identify critical incidents or moments, reflect on my role as tutor, reflect on my role as researcher, and identify interesting hunches and observations. In doing this, emerging potential themes were highlighted, and this afforded me the opportunity to probe these further in the interviews.

5.8.3. Discourse Analysis of Forum Postings

In terms of analysing the students' forum postings, the use of discourse analysis as a data collection method was employed. Discourse analysis as a qualitative method is concerned with the examination of language (Robson, 2011). Discourse analysis

falls into the constructionist relativist view of research i.e. language has a prominent role in social life and through the analysis of language and the how this language is communicated, we come to understand social situations. Discourse analysis has become a widely used qualitative approach as "virtually any social text can be used as a basis for this type of analysis, including existing documentation or naturally occurring talk, individual and group discussion and interview transcripts" (Robson, 2011, pp. 372-273). In relation to discourse analysis as a research method, Wetherhell, Taylor and Yates (2001, p. i) highlighted the increased popularity in using discourse a research method: "The development of discourse analysis as a method for doing social scientific research has to be seen in this changing context… discourse analysis emerges from profound changes in conceptualizations of communication, culture, language use and function, and the relationship between representation and reality". The employment of discourse analysis in this study focused specifically on the production of language as a social activity in the asynchronous forum. This process can be labour intensive (Robson, 2011). Hence, the approach to discourse analysis drew on a discourse analysis framework that was designed around study pre-service teacher preparation fora (Irwin & Hramiak, 2010). Irwin and Hramiak (2010) present genres to guide researchers in conducting discourse analysis of student teachers' forum postings. Three genres were adopted from this and were used in this study, as they were appropriate to the overall research questions: (1) *Status Report* (students providing an update of their experience, since engaging in the synchronous sessions, and if and how the interaction helped them), (2) *Messages of Encouragement* (from peers and tutors), and (3) *Requests for Help* (issues and challenges that remain). In adhering to the ethical guidelines, the forum postings of the twelve participants were only reported in the findings.

5.9. Data Management and Analysis of Data

Due to the large volume of data, a coding system was created to support references to the data.

Table 5.4. *Coding system*

Coding system	
Source	#
Student Teacher	ST
Online Tutor	OT
Interview	Int
Forum	F
Week	W
Debrief Forum	DF
FN	Fieldnote
S	Session

Table 5.5. *Pseudonym system*

Pseudonym System	
Andy	#ST1
Avril	#ST2
Fiona	#ST3
Grace	#ST4
Jane	#ST5
Ken	#ST6
Lisa	#ST7
Mary	#ST8
Mike	#ST9
Niall	#ST10
Paul	#ST11
Ross	#ST12
Caoimhe	#OT1
Jenny	#OT2

This research study generated a large data set which included interview transcripts, observation fieldnotes, and forum postings that were collecting during the LÍNTE experience. Computer assisted qualitative data analysis (QDA) was initially considered, namely NVivo, as the literature highlighted the benefits for using such approaches when organising and managing data (Dey, 1993; Robson, 2011).

However, compatibility issues emerged between my personal and office computer devices. Thus, coding was carried out manually using a self-designed digital procedure (see Appendix Six).

Thematic analysis was used as the approach to data analysis. Braun and Clarke (2006, p. 6) describe thematic analysis as "identifying, analysing, and reporting patterns (themes) within data. It minimally organizes and describes your data set in (rich) detail". Themes emerge when elements of the data relate to the research question and when a pattern emerges within the data (Braun & Clarke, 2006). In generating themes, it is important to first identify initial codes in the data sets, which can be described as interesting features that are visible in the data (Braun & Clarke, 2006). By engaging in the process of coding, the researcher is engaging in the process of grouping and organising data. This can include highlighting key passages and applying key words. This exercise can be described as first-level coding. Second-level coding involves the researcher reducing the initial codes into themes (Miles & Huberman, 1994). Once this process is completed, the themes and sub-themes are reviewed and refined (Braun & Clarke, 2006).

Table 5.6. *Six step approach to thematic analysis (adapted from Braun & Clarke, 2006)*

Stage	Description
Familiarising yourself with the data	Transcribing the data, reading and re-reading the data, noting initial ideas
Generating initial codes	Coding interesting elements of the data
Searching for themes	Organising codes into potential themes, and gathering data that is relevant to each theme
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

Defining and naming themes	Ongoing analysis to refine the specifics of each them, and the overall story the analysis tells; generating clear definition and names for each theme.
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.

Building on the literature review, the theoretical principles, and research questions, pre-determined codes and themes were decided upon based on the above literature and the research questions in this analysis approach. These were based on the theoretical frameworks discussed in Chapters Two and Three, and the subsequent theoretical principles in Chapter Four. For example, the Triad of Challenges in Learning to Teach (Darling-Hammond, 2006) was employed as a lens to explore the kinds of issues that students encountered during placement and thus, the kinds of support they sought. Although deductive analysis is criticised by some for leading to researcher bias (Robson, 2011), it is also argued that this approach can support the novice researcher and can reduce the threat of elements of the data that may be overlooked (Tuckett, 2005). While deductive analysis was the main approach, some inductive analysis was also employed where themes arose that were unforeseen. Conflicting views are also important when the data was analysed as this can add a deeper layer to the analysis and subsequent interpretations (Miles & Huberman, 1994). Hence, the presentation and discussion of the findings in the forthcoming chapters arises from a rigorous analytical approach, which captures the theoretical frameworks underpinning LÍNTE as well as the research questions presented in this chapter. The categories and codes are outlined in Table 5.7.

Table 5.7. *Categories and codes emerging from the thematic analysis process*

Categories	Codes	Relationship to RQ
Apprehension	Apprehension towards online learning	RQ1
	Increased workload	
	Apprehension towards sharing experiences	
Safety	Encouragement to share issues	RQ1, RQ4
	Acceptance and sense of belonging to a group	
	Positive atmosphere	
	Affirmation from tutor	
Reflection	Reflecting through collaboration in LÍNTE	RQ1
	Reflecting through dialogue in LÍNTE	
Feedback and Interaction	Instant feedback in live sessions	RQ1, RQ4
	Small-group dynamic in the breakout rooms	
	Presence of tutors – feedback and affirmation there and then	
Workload Implications	Posting to asynchronous forum laborious and isolation	RQ1
	Other demands of SP impacting engagement	
Technological Problems	Broadband Connectivity	RQ1
	Audio Issues	
	Lack of technological support	
Relationships	Existence of personal relationships (pre-LÍNTE)	RQ4
	Development of professional relationships amongst students through collaborative learning	
	Shared vision in groups	
	Positive relationships with cooperating teachers – value contributions (perception	

	that these are grounded in practice and experience)	
	Relationship with tutor – link person to coursework	
	Relationships between tutors –shared vision, defined roles (fostered through professional development seminars and experience in working with student teachers)	
Support	Support in Planning	RQ2
	Support in Classroom Management	
	Support in Differentiation	
Questioning	Conversation starters	RQ1, RQ3
	Open-ended	
	Promoting enquiry in practice	
	Space to reflect on the questions	
	Risk of repetition	
Knowledge Generation	Peers sharing positive elements of practice	RQ3
	Implementing advice from peers relating to issues of concern	
	Implementing advice from tutors	
	Linking problems in practice with coursework learning	
	Linking learning with school-based mentoring	
Structure and Organisation	Longer duration for sessions	RQ1
	Difficulties in consolidating information	
	Increase in live sessions	
	Organisation of the forum - problematic	

5.10. Determining the Reliability, Validity and Trustworthiness of the Research

In terms of determining the trustworthiness of findings in qualitative research, there is a need to follow clear procedures so that the researcher can ensure credibility and rigour in the findings. The nature of validity, reliability and trustworthiness in qualitative research has been subject to debate (Denzin & Lincoln, 2011; Robson, 2011). For example, qualitative research is criticised due to its absence or lack of validity and reliability (Denzin & Lincoln, 2011). Seminal theorists in the qualitative research field, such as Guba and Lincoln (1989) reject this criticism and have argued that the 'canons' of scientific inquiry' are note relevant to qualitative research (Robson, 2011). Denzin and Lincoln (2011) argue that qualitative researchers are not 'antiscience per se', but they merely do things differently. However, Robson (2011, p. 156) notes that reliability and validity are "operationalized so rigidly in fixed design quantitative research. An answer is to find alternative ways of operationalizing them appropriate to the conditions and circumstances of flexible design research".

Validity is concerned with the accuracy and truth of the research. By following specific procedures, outlined by Robson (2011), the threat to the validity of qualitative research can be addressed:

- The description of what you have seen, experienced or heard is very important and should be supported using recording materials and/or comprehensive field notes. Failing to address this can result in incomplete or inaccurate data and thus, this can prevent the researcher from providing a valid description. All interviews were audio-recorded and transcribed, and descriptive observation field notes were gathered though a narrative approach, supported with prompt questions;
- The qualitative researcher's interpretation can also have an impact on the validity of the research. Robson (2011, p. 156) notes: "the main threat to

providing a valid interpretation is through imposing a framework or meaning on what is happening rather than this occurring or emerging from what you learn during your involvement with the setting". Qualitative researchers can begin with a prior framework, understanding or interpretation of a situation but it is important to (a) acknowledge that this may not be applicable or appropriate to the research setting and (b) recognise that there may need to be modifications. In making interpretations and producing findings, the researcher should be able to clearly trace the events and journey that have led him or her to making their interpretations;

- The role of theory is also important in determining the validity of the research (Robson, 2011). It is important that alternative arguments are considered that may contradict the literature and the theoretical principles underpinning the intervention i.e. applying negative case analysis to the study. Therefore, the analysis and interpretation procedure devoted time and space to search for cases that disconfirm the theoretical frameworks underpinning the intervention, and limitations have been identified in the literature review. Furthermore, as discussed, diverting or conflicting opinions were identified in the analysis of the empirical data.

Research bias also needs to be addressed when conducting qualitative research. Robson (2011) notes that the relationship between the researcher, setting and participants, can result in research bias. Creswell (2007) and Robson (2011) argue that prolonged periods in naturalistic settings can help the researcher to overcome bias as trusting relationships can form between the researcher and the participants. However, Robson (2011) argues that prolonged research in the field can be challenging for the researcher to maintain his or her role. Robson (2011) recommends that researchers

engage in a process of 'debriefing' throughout the research. Conversations around the research can allow the researcher to listen to different perspectives, which can help reduce research bias. Peer debriefing took place (a) with tutors (following the weekly discussion meetings) and (b) with a four-member academic community (three doctoral candidates and a colleague who has specialised interest in qualitative research). This study employed data triangulation, where the use of multiple methods of data collection occurred. The use of multiple data collection approaches is encouraged in educational research as it can enhance the rigour of the research. Findings from data sources can support and conform findings. However, it is cautioned that contradictory findings can also arise across the data sources, which can bring problems and challenges to the research.

In quantitative research, the use of reliability testing determines the quality of the research instruments (standardised instruments such as surveys, tests, scales). This approach is more complex in qualitative research, where the researcher (a research instrument in a naturalistic setting) is precluded from such testing. The qualitative researcher needs to ensure that there are minimal risks when carrying out the research. This includes ensuring that audio devices are working, interruptions are dealt with, and errors are minimalised in the transcription process. Furthermore, the researcher needs to be thorough and honest when carrying out the research. Robson (2011, p. 159) suggests that the use of an audit trail can improve the reliability of the research. In relation to this research, a record of the activities in carrying out the research was kept, records of raw data were retained, and specific details around the data analysis procedures were carefully mapped out.

5.11. Ethical Considerations

"All social research involves ethical issues. This is because the research involves collecting data from people, and about people. A thorough research proposal will have anticipated the ethical issues involved, and will show how they will be dealt with" (Punch, 2005, p. 276). Even though ethical issues can arise in both quantitative and qualitative research, it is more likely to occur in qualitative research as qualitative research tends to deal with "the most sensitive, intimate and innermost matters in people's lives, and ethical issues inevitably accompany the collection of such information" (Punch, 2005, p. 276). According to Cohen et al. (2011), research ethics occur at various levels including legislative bodies (Data Protection Act, 1998, 2003; EU Data Protection Directive 94/46/EC), specific committees within universities, and the personal ethics of individual researcher. In ensuring that all requirements were met in relation to conducting research, I made two separate research applications for approval in conducting education research. As a registered doctoral student in University College Cork, I was required to apply to the Social Research Ethics Committee (see Appendix Eight). The application was approved. In addition to this, I also had to submit a proposal to the Research Ethics Committee in my own institution (see Appendix Seven). The approval to conduct the research was granted. In formulating the application to both committees, I addressed a number of issues:

- Written consent for participation in interviews was sought. The interviews were agreed in advance by the participant and the researcher. The interviews took place after the placement ended to ensure that no additional pressure or stress was placed on the student teacher. The researcher was also mindful of assignment submission dates/examination when organising the interview times. Raw and processed data was securely stored in a locked location. This

included paper documents, audio-recordings and electronic data stored separately;

- As I was taking a participatory role within the study, it was important that I was afforded critical distance from my day-to-day duties, specifically the assessment of student teachers on school placement, while engaging in field research. This request had been granted in my HEI;
- As I had contact with the participants during interviews, it was not possible to gather data in these situations anonymously. Participants were guaranteed that data about them would be confidential when writing up the dissertation and in subsequent publications;
- Every effort was made to ensure that the identity of the participants was protected. Data collected was not used for any purpose other than that flagged at the outset of the study.

5.12. Conclusion

The methodological orientation, the research approach, and the data collection procedures have been outlined in this chapter. A social constructionist participatory stance underpinned this study, where it was recognised that participants would bring multiple realities to the experience, and knowledge would be acquired through active engagement in a naturalistic research setting. Hence, a qualitative research methodology was deemed appropriate. The data analysis process has also been explained and the rationale for using thematic analysis has been discussed. A case study approach drawing on principles of action research has been considered the most suitable research design. Finally, approaches to maintaining rigour and trustworthiness of the research as well as the importance of ethical considerations and protocols throughout the research journey have been discussed.

CHAPTER SIX: PERCEPTIONS OF THE LÍNTE EXPERIENCE

This chapter and the forthcoming chapter (Chapter Seven) present the research findings. The findings that are discussed in this chapter are set discussed in relation to the following research questions:

- How did the student teachers view and respond to the intervention?
- How did interpersonal relationships and dynamics influence the learning process and outcomes in the intervention?

Addressing these two research questions in this chapter are appropriate as students perceived that the presence of tutors, as well as their background and experience, was an important part of the overall learning experience. The chapter will also highlight key aspects of the experience that students perceived to be important in this online space. Alongside this, issues with LÍNTE and suggestions for further development and improvement are also discussed. Drawing on the codes and categories, as outlined in Table 5.7, the following areas are discussed in this chapter: initial feelings towards LÍNTE; a safe space; a reflective space; feedback and interaction; accessibility; workload implications; technological issues; structure and organisation; willingness to communicate; fostering relationships; and linking LÍNTE with school-based mentoring and support.

6.1. Initial Feelings towards LÍNTE

Prior to engaging in LÍNTE, students did express feelings of apprehension towards this development in their initial teacher education programme. Students expressed apprehension around engaging in an online space. For example, Ken (a participant in the 40-49 age profile) felt apprehensive towards engaging online as "it was an experience I had not encountered before and I was a little bit scared…this whole online learning is a new thing for me". Ken preferred "learning in the lecture

theatre or in the classroom", and noted how he felt "shy" going into this (#ST6int). Paul (a participant in the 40-49 age profile) also felt reluctant, and described how he "was not keen on it" because this would be "online". Like Ken, he "preferred to have college face-to-face", but acknowledged that due to the nature of the placement (placement of students nationwide), this would not be a possibility. He recalled his first session and openly expressed a feeling of reluctance at the outset: "I went into it kind of thinking I am not really going to engage in it". However, both students felt positive as they began engaging in the process; Ken explained that "I was a little bit scared but it couldn't have worked out better for me…I found it to be reassuring to have it in the background and know you could talk to fellow students" (#ST6Int). Following the first session, Paul felt that he "saw the benefit of this (LÍNTE)" and he felt that he had "lots to bring" (#ST11Int).

Student teacher participants felt that this engagement would increase workload pressures. Jane felt an immediate feeling of negativity: "I was a bit apprehensive as I was thinking more stuff to do during placement". However, as she engaged in the space, Jane felt that the "talk" and "getting her questions answered" was "really helpful" (#ST5Int). Grace also discussed how she initially perceived this as an "an extra workload". As outlined in Chapter Four, this was factored in when planning the intervention; students would not be required to engage in the standard reflection (written reflection) on evenings that they engaged online. Grace commented that this option alleviated her initial concerns (#ST4Int).

Sharing experiences openly with other student teachers and with tutors was also initially met with apprehension. Reflecting on her first session, Fiona recalled how she felt reluctant before making her contribution: "I remember the first thing I wrote; I

was like should I post it or not…" (#ST3Int). Lisa initially questioned the expectation of "being open" and was initially cautious:

> Many of us I think, like myself, weren't very open from the outset about opening up about any difficulties that you were having. You have an idea that everybody else is getting on great, and if you're the only one that's having trouble [laugh], you're the only one. (#ST7Int)

This was also echoed by Ross who felt that as a student teacher, you try to "paint a good picture of yourself to other students…you are never kind of wanting other people to know that I am a weak person and show my faults". Linked with this, Mike expressed doubt at the outset around student teachers' postings, and this was based on his previous placement experiences: "When I first heard about this, I wasn't really sure what to expect because we do keep in contact informally through WhatsApp or Facebook. You wouldn't be sure though how honest students would be about their placement and the amount of work they are putting in". The emphasis on the 'deprivatisation of practice' (Fullan, 2007) and making practice public (Shulman, 2005) has set out to encourage and foster collegiality and collaboration within the profession. However, 'privacy norms' that are entrenched in teacher culture, creates barrier for teachers to "open their classroom doors" (Fullan, 2007, p. 36). The reluctance that was displayed initially by the participants towards LÍNTE, perhaps signals how these 'privacy norms' exist within initial teacher education. Post LÍNTE, Mike (#ST9Int), Ross (#ST11Int) and Lisa (#ST7Int) all commented how their online engagement online alleviated the feelings of doubt, worry, and concern: "You see other people sharing and you are like after a while I am not alone" (#ST11Int). The second two subsections will discuss how a positive supportive environment was essential in altering the students' perceptions.

6.2. A Safe Space

A discussed in Chapter Three, the importance of providing 'safety' for students to reflect is critical for 'growth' and 'learning' through reflection (Korthagen, 2001a). In Chapter Four, the design principle around reflection and enquiry emphasised the importance of a space where empathy, understanding, and a culture of support would underpin this intervention. Lisa (#ST7Int) described LÍNTE as a "safe space". Underpinned by the importance of safety in reflection (Korthagen, 2001a) and Zeichner's conceptualisation of "hybrid spaces" in teacher education (Zeichner, 2010; Zeichner, Payne & Brayko, 2015), the term feels appropriate for this discussion. The dialogue amongst student teachers played a fundamental role in the creation and cultivation of a "safe space" Students highlighted that the discussions were predominately student-led and through engaging in conversation, students became more at ease and comfortable in sharing experiences and in seeking help. Fiona (#ST3Int) noted that the acceptance into her group made her feel more at ease in engaging in this space. She commented that the culture of support and communication with her breakout group developed whereby the students set up "a WhatsApp Group" (an online text messaging platform application), built on the breakout room discussions, and used this as a communication platform between the online sessions. Niall (#ST10Int) commented in his interview: "Because we know each other, this was never an issue and everyone was happy sharing…we had the chance to talk with peers closely about the issues happening in school". Like Niall and Fiona, Mike found that the breakout session was the space where he felt most comfortable in sharing experiences about placement. Mike described this experience as a "nice informal environment" where "you could be honest about yourself and honest about how you were getting on". Mike positively commented that students were eager to use this

space to learn: “Students realised how valuable their time was and it wasn’t a time to mess about and this led to positive atmosphere where people were helping about teaching”. Avril (#ST12Int) also felt that “everybody was in the same boat and there were all similar ideas among the group so we all just kind of felt that we were helping each other”. Within the interviews, Mike (#ST9Int) and Ross (#ST12Int) both provided in-depth explanations around how the culture of openness and sharing helped develop their confidence. Mike (#ST9Int) felt that LÍNTE changed his overall approach to seeking help and asking questions:

> For me personally, it was fantastic as it really helped me to overcome a problem in the sense of how nervous I felt and how uneasy how I felt about teaching and even about the content I was planning and how my classroom management skills were. I was like what I was doing was it appropriate or was it not, so it was great to be able to hear from everyone and it helped me feel more comfortable and confident coming into school everyday especially after the first one (live session). I think the online engagement taught me that challenges, everyone is going to face them, and it is important that you face them and share and that’s what I took ultimately from this online engagement and it has helped to be more confident around other such as the staffroom in talking about my class. Before this I would always just have said I was getting on fine in the class and I would never want to talk about difficulties or challenges but I did see the reward in being honest and seeking advice and sharing advice and taking on board the advice of others.

Ross (#ST12Int) commented how he felt a sense of positive reinforcement by interacting in LÍNTE:

> I come from a non-teaching background and at home it is hard to describe how you feel and what went wrong…I found it to be very beneficial because you are finding out other people’s problems and how they resolved them and giving them your own ideas and when you are giving people your ideas and solutions to their problems, it is giving you a sense of encouragement as well because you are using your own experience to reflect on others and it gets you thinking oh I met this problem before and now I know what to do and this worked for me so I kind of can tell them and I know it might not work for them but I thought it was good.

Paul (#ST11Int), however, was critical of the male participants in his session in terms of leading or starting the discussions: “I think the female participants in my group were quicker to start the conversations in my group…the male participants may be

more shy about talking about the teaching, but once the conversation, you had lots to bring". This links with a finding, previously discussed, that explored initial feelings of apprehension by students around sharing experiences.

Students remarked that the presence and actions of the tutors play a vital role in creating the safe space. The overall perceptions of the cooperating teachers and teacher educators are discussed later in this chapter. For this section, the students' perceptions of how tutors contributed to the creation and cultivation of a safe space will be discussed. Students like Fiona (#ST3Int) and Jane (#ST5Int) commented on the empathetic nature of the tutors. Fiona felt that her tutor "knew where we were coming from" because she "was in the same boat as us". Like Fiona, Jane (#ST5Int) also commented how her tutor understood her struggles around groupwork: "It was nice to hear that, that a proper teacher, and experienced teacher, still struggles with that too. It was nice for us as students to hear that because you are like it happens to even experienced teachers". Lisa (#ST7Int) pointed out that her tutor allowed students to engage in natural conversation and "popped in with good suggestions, feedback and encouragement". Other students reported that the encouragement of the tutors was critical in helping them open about teaching. Mike (#ST9Int) remarked on the actions of his tutor who "might come in and say that's a great or I have tried that myself". Mike believed that these comments made "students feel more confident and comfortable in sharing". Ross (#ST12Int) reported that his tutor encouraged students to share about their experiences in the breakout sessions: "The tutor kind of inspires you to write down and don't be afraid to share your ideas because at the end of the day you are still learning". Like the other participants, he also commented on the positive feedback and affirmation: "Say a Maths lesson or enquiry-based lesson went bad, they always came back and were very positive". Revisiting Korthagen's advice around the

'skill of keeping silent' (2001d, p. 126), space was provided to allow students to think for themselves and interact themselves. The online tutors would then focus on the student teachers' experiences, identify relationships, and provide feedback and encouragement.

6.3. A Reflective Space

Students remarked that they found engaging in LÍNTE more beneficial than writing reflections. Grace (#ST4Int) commented in the interview that she preferred the online sessions because she maintained that she was still engaging in reflection: "I was still reflecting on my teaching". Ross (#ST12Int) also described the online experience as an alternative form of reflection, as students discussed issues directly relating to their experience. "It was a good break than the ordinary reflections that we had to do everyday and it kind of got you thinking a bit more because there were different questions asked and you were kind of reflecting on different parts of the experience". Students also believed that the written reflections were isolating. Lisa remarked: "We get a lot more out of the online learning as we are more engaged and less isolated, and we don't feel we are on our own" (#ST7Int). Andy (#ST1Int) also had similar feelings to Lisa and remarked that school placement can be "isolating" and that "you are some distance from your peers, sitting in the room yourself, writing the reflections yourself". Paul believed that the online experience was more interactive: "It was more beneficial than completing a reflection because it is more communicative and more interactive whereas a reflection means you can do it on the bus, you don't have to talk to anybody or interact with anybody". Students also felt that interacting online provided a richer learning experience than writing reflections. Andy (#ST1Int) commented that the online experience afforded students with the opportunity to "talk about or write your issues and peers can offer guidance and give a different perspective on it and talk about

the issue" while Fiona (#ST3Int) felt that it provided feedback and "clarifies things especially when you are at home and you feel like you are not alone". Some students were not completely negative towards written reflections and students recognise its value. However, Niall noted that the online dimension brought a further layer: "Now I understand the importance of doing reflections but it was great to get feedback not just from yourself or the teachers online but from each other and to be able to bounce ideas off each other" (#ST10Int). Mike felt that the online engagement went "hand in hand with the written reflections". He felt that the written element "was very good to identify what aspect of your teaching you need to improve on…but being in the isolation, that we are as student teachers, it is very difficult to put yourself out of your comfort zone and to identify new strategies that you could implement to solve a problem" (#ST9Int). Grace (#ST4Int) and Mary (#ST8Int) though disagreed with Mike and Niall. Grace argued:

> I got feedback (online) on how do I improve my time management or who do I focus in on this lesson or what would I do if I was introducing a novel and you would get live feedback there and then whereas when I was doing my lesson evaluation, things like this would come up like I didn't get my time right today or I don't know how to structure the novel and you might not necessarily get to your teacher that day because you can't expect your teacher to be always there because he or she have other commitments so I found the online sessions to get answers straight away. (#ST4Int)

Mary (#ST8Int) found that she was "saying the same thing over and over again in the written evaluations". The online experience provided a richer experience for her as she described how she would address the "same things that came up in my evaluations on most days" in the LÍNTE space and "it was actually nice to talk to other people instead of sitting there on your own".

Policy pertaining to initial teacher education in the Irish context has placed an increased emphasis on reflective practice (Teaching Council, 2011a, 2011b), stemming very much from the plethora of research and literature commending this

approach (Otteson, 2007). However, with the increased emphasis on reflective practice, there has been much debate and argument around the type and quality of student teachers' reflections (Harford & MacRuairc, 2008; McGarr and McCormack, 2014). In a study on student teacher reflection during school placement within an Irish HEI, McGarr and McCormack (2014) found limited critical reflection among student teachers. In an intervention to support students to engage in deeper critical reflection, the study highlighted, that even with support mechanisms, the majority of reflections remained descriptive and focused primarily on "challenges and conformity to school practices" (2014, p. 5). Hatton and Smith (1995) argue that critical reflection takes time to develop for most teachers, beyond the duration of initial teacher education programmes. McGarr and McCormack (2014, p. 11) contend that reflection for student teachers should be the beginning of a process where reflection moves from "self-focused to critical". In light of this, the implementation of online support mechanism, like LÍNTE, in the early stages if ITE programmes, can equip teacher educators with a platform to challenge assumptions and beliefs. Furthermore, critical reflection could be enhanced as students become more accustomed and familiar with this space, coupled with experience in schools. However, there may be potential limitations in amending the existing approach. With the lack of a 'formalised partnership' in schools (see Chapter One), this may be the only space where student teachers feel that they are supported and listened to. Second, the stage of development needs to be considered. The open-ended questions that were used afforded students with the flexibility to raise issues and concerns that they felt were important. The over use of prescribed mandated questions may negatively impact what students share, and ultimately lead students to equate the experience as an extra workload. Finally, a limitation of McGarr and McCormack's research (2014, p. 278) was around the

reliance of one data source in interpreting the quality of reflection. The authors argue that an interview could gain a more in-depth understanding of the "critical" dimension in student teachers' reflections. I would agree with this, as the use of interviews in this study, provided a lens to further understand the reflective content in student teachers' online postings and interactions. Beyond sharing issues, and experiences, it was argued in this section that students were also engaging in reflection. However, students were initially reluctant. Beyond engagement, their perceptions changed. A key learning that has emerged is around the careful considerations that need to be addressed when establishing a space where students, quite simply, open-up about their experiences. Overlooking this, may result in a space where students may become increasingly apprehensive. Carefully planned, the culture of privacy and individualism that is entrenched in teaching, can be altered and allow students to enter the profession with a positive attitude towards teacher collaboration.

6.4. Feedback and Interaction

In Chapter Four, the resources and approaches that would be used to facilitate LÍNTE were discussed, namely, Adobe Classroom for facilitating synchronous (live) sessions and a Moodle forum for facilitating the asynchronous sessions. This section explores the perceptions of the students towards the live sessions and the forum. Three common issues emerged when students reflected on the synchronous and asynchronous learning experience: feedback and interaction, accessibility, and workload implications Students frequently discussed their preference for the live sessions, due to the interactive nature of the synchronous (live) sessions. In terms of interaction amongst peers, students commented that the live sessions provided a more interactive experience. Andy (#ST1Int) commented that the structure of the breakout sessions was particularly beneficial in creating an 'interactive' experience for the

students: “It was more interactive, more engaging, you knew you had the tutor there and you had six or seven peers in the breakout to bounce ideas off and problems that may have arisen throughout the week or day”. Mike (#ST9Int) flagged preference for the live sessions, describing it as “nice and snappy and you wrote your sentences and you chatted with the tutor and your peers about your teaching”. Niall (#ST10Int) noted that the live sessions provided “way more interaction and your questions were answered directly and with the tutor there and then”. Niall believed that it provided the opportunity for the tutors to deals with issues as they arose: “It is probably easier on the tutors too to answer the questions than reading down through lengthy forum posts”. Other students signalled a preference for the live sessions, due to the instant feedback from peers. Avril (#ST2Int) felt that she found the live sessions more “beneficial” as students were “online at the same time and got advice straight away. It was instant from our tutors and peers”. Mike (#ST9Int) also explained how the live sessions were more effective for him, due to the feedback in the live sessions:

> There was more feedback in the live sessions. Students were giving you feedback. Tutors were giving you feedback and you were getting ideas and you were able to share your own ideas and I felt more comfortable coming out of the live sessions than the forums (asynchronous). The forum and written reflections are good at identifying X, Y and Z, what problems I have, what challenges I am facing. But I think the online sessions are excellent for the next step – how can I go forward, this is what I am going to do and it’s not something that will keep in my comfort zone.

Students perceived the live sessions as a means of addressing issues and receiving direct and instant guidance and advice from the tutors. Furthermore, the live sessions provided an opportunity for students, like Mike (#ST9Int), to not only address challenges and issue, but to receive affirmation, encouragement, and motivation to incorporate new ideas and address existing challenges.

6.5. Accessibility

There were conflicting perspectives towards the accessibility of information in both the live sessions and the asynchronous forums. In relation to the asynchronous forum, Avril (#ST2Int) believed that the "postings were beneficial" as students were afforded the opportunity to "read them and give feedback, and think about the postings ourselves so it was good to reflect in that sense as well". She found that the live sessions and asynchronous sessions worked well as "we could address those issues straight away online and then give feedback in the second week and reflect…it was good the way it was laid out, the fact that were have the online live sessions and then the discussion and the online again and so on". Andy (#ST1Int) felt that the postings in the asynchronous forum provided students with the opportunity to "think about what you were writing and posting over a longer period of time". He also felt that the asynchronous forum was "beneficial" as it provided a space for students to "read other students' forum postings". Similarly, Jane (#ST5Int) felt that the forum postings provided the students with the opportunity to explore a wider variety of perspectives towards the school placement experience: "I felt that it was beneficial and the forum was good because you could everyone's ideas as opposed to the people in the breakout room". Paul (#ST11Int) also felt that the asynchronous forums enabled students to gather a wider variety of perspectives. Furthermore, he was critical of the pace of the live sessions as he found it challenging to gather the various perspectives and ideas: "I did like that you had time to look at these (postings) and what I didn't like about the live sessions was all the sharing of information and being worried about missing something". However, Fiona (#ST3Int) had a different viewpoint towards the forum. She discussed:

> Definitely not as helpful (the asynchronous forum) as the breakout sessions because there were so many postings and trying to read through them and then

> you had so many lessons plans to get through and resources to be doing and just sitting there you felt it was time consuming…I noticed that there were people commenting so they must have been reading through them but I couldn't because I just didn't have the time.

The discussion around workload implications was not solely discussed as a challenge or issue, by one student. The next section discussed the perception that students had towards workload, particularly towards the forum postings.

6.6. Workload Implications

Certain students felt that the asynchronous forums were laborious and time-consuming for myriad reasons, whereas the live sessions were more helpful. Grace (#ST4Int) described the forum posting experience as another form of written reflection: "The forum I found to be another reflection and how was your week going. The online (live) sessions were more practical and stuff I needed to find out about, and ask questions, and get answers there and then and I didn't need to be waiting so I found them to be very useful". Revisiting Fiona's (#ST3Int) comment in the previous section around time and workload pressure impacting her engagement in the forum, Grace (#ST4Int) made a similar observation in relation to student interaction in the forum:

> I got the impression that people were copping out of the forum and that there were more engaged in the live sessions because they had to be because they were live. Whereas with the forums, I think people were thinking I just have to make the posting. I found it hard to sieve through the comments. My suggestion would be to make it all live for the future.

Mary (#ST8Int) was also a student who felt that she could not fully engage in the forum due to workload commitments and other pressures: "I posted my own part and I read a few others and once I logged out I didn't really come back to it because I was rushing thinking I had lessons to prepare". Mary felt that she could have engaged in this process further, and cited that the planning requirements were the key factor which impacted her engagement beyond her own posting: "So I didn't stay in as long as I should have because I was like I have lessons to do and resources to make. It was nice

to have something different than the online classroom (live sessions) but I could have engaged here (asynchronous forum) more if we didn't have so much other planning to do". Similar to Grace, Mike (#ST9Int) also commented how the forum postings were "very similar to the written tasks like reflections or evaluations where you to prepare what you were writing and then press send". Mike felt that he was unclear of how to properly engage in the asynchronous forum: "I remember I had a problem myself where we were given the topic. I wrote a paragraph on and for some reason or other, it took me so long to write and when I pressed send a lot of students had seemed to post. I had taken other ideas but I wasn't sure what was expected of you". Paul (#ST11Int) believed that students did not adequately engage in the asynchronous forum and merely did the base requirement. He explained: "Some people I think had a posting prepared for the forum, uploaded it and then moved on rather than participate in the discussion and if anyone asked they could be like there is my contribution and I was there". However, Paul felt that there was valuable learning to be gained from reading other students' postings: "I did like though you had time to look at these and what I didn't like about the live sessions, was all the sharing of information and being worried about missing something". However, he critiqued the asynchronous nature of the postings, particularly around the time that students posted to the forum: "During your downtime on Saturday, you shouldn't be expected to read these during a time that is equally important than when you are doing your work".

As alluded to in Chapter Two, Cheng et al. (2010) argue that the asynchronous forum can be more beneficial in the online learning experience, as it affords the learner to structure their thoughts, before engaging in the conversation online. This argument was supported by certain students, such as Paul (#ST11Int11) and Avril (#ST2Int). However, the findings from the other participants above have to be addressed. Posting

to the forum and reading other postings proved challenging for students and according to students, time pressure and other school placement commitment had an impact on the length of the time they could adequately engage in the forum. Furthermore, students were posting at different times and on different days, including weekends, and thus, others may not have not read their postings. This finding is corroborated by Mason and Rennie (2008) who argue that other course distractions can detach students from engaging in forums. It has to be noted that students overall were more positive to the synchronous learning, the live sessions, and the primary factor was around the interactive nature and the instant feedback experience. The structure and expectations of the asynchronous forum warrant careful considerations for future development. Students preferred the structure of the live sessions, whereas, certain students reported that they were unclear of what to write in the forum posting. Although the purpose of the forum posting was discussed at the outset of LÍNTE, students felt (a) unclear on the expectations and (b) equated the forum posting with an evaluation or reflection in an online space. Ross (#ST12Int) suggested that the design of the asynchronous forum should capture the features that are currently available on social media platforms, and this would make the forum more attractive and user-friendly for students:

> It would be a good idea to have the forum posting in an area like Facebook where students can respond and like and comment underneath and then you get a notification with their comment and their recommendation…if you get likes, you are getting encouragement and if you are getting comments, you are getting solutions. It is an idea and you could try it and see how it works.

Perhaps, in re-designing the forum experience, more careful considerations could be put into maximising this learning experience for the student. Revisiting Chapter Four, Nandi et al. (2011) stress the importance of careful consideration and thinking to be placed in the design and in the facilitation of the forum. In terms of future developments, the role of the asynchronous forum would need review. It is important

to build on student perceptions and addressing the following: (a) a move towards more live session with students, (b) develop clearer guidelines for students in relation to asynchronous postings and engagement, and (c) in consultation with learning technologists in my own HEI, explore the possibility of looking at alternative asynchronous platforms that are more interactive and user-friendly.

6.7. Technological Issues

In terms of the online experience, students noted that there were certain technological issues that impacted the live sessions. Students frequently commented that internet accessibility and broadband bandwidth interfered with the learning experience. Andy (#ST1Int) discussed how he was "disconnected" at various points during the live sessions. He explained that this had an impact on his participation in the discussion:

> I suppose you can lose your train of thought. Worrying is it my internet or is it the problem on the other side but you know that's life. There will be always be technical difficulties, and once I was back in online, I was fine. I just read back on the comments and I was back in action again.

Jane felt that issues with her broadband prevented her from actively engaging in the complete live sessions, and discussed how this was "really annoying": "I had issues with my laptop disconnecting from the broadband…I was late signing in and I missed the start of the session and getting time to think about the questions". Jane (#ST5Int) remarked: "When there are technical issues, it stops you getting the full potential out of it". Grace (#ST4Int) discussed how she had encountered similar challenges and noted that her "really bad broadband dropped a few times". Avril's (#ST2Int) experience was different to Jane. She recalled one evening:

> …there was bad weather and I think it made it difficult for some people to log in…I think I was there was just that one time I got knocked out…I got back in and I didn't really miss anything at all.

Interestingly the above participants were undertaking their placements outside the Dublin/Greater Dublin area. Both Paul (#ST10Int) and Niall (#ST11Int), who were undertaking their placement in the Dublin area, discussed how others in their group experienced connection issues. Niall commented: "There was obviously the problems where people had Wi-Fi connection problems at home. From that point of view, it can be difficult for people. You kind of feel that people would be losing out then". The above comments from the student teacher participants reflects an ongoing challenge that I had encountered in the overall facilitation of the live sessions. There were frequent connection problems for certain students, and when students lost connections, they would then have to be reassigned to their breakout rooms. A notable challenge in role as the facilitator was reassigning students to their correct breakout sessions, while facilitating discussions in my own breakout group. The absence of support from a learning technologist meant that the I was also have adopting a technological role, which for the first time in facilitating online sessions, proved extremely challenging: "Really hard to multitask. I feel frustrated. Have to be reassigning students to their breakout rooms when they lose connections while trying to talk and listen and read the comments from my own breakout group" (#FNS2). In research by Cosgrove et al. (2013), this study highlighted the importance of broadband bandwidth, so that digital learning opportunities could be maximised in schools. This heightens the argument around the implication that limited broadband bandwidth can have on learning experiences. As higher education institutes move towards online and blended learning, there needs to be recognition and careful consideration around broadband bandwidth where students can be afforded meaningful online learning opportunities, that are accessible to all participants.

Students, such as Ken (#ST6Int) found that the Adobe Classroom and Moodle forum were "user-friendly". Paul (#ST11Int) described them as "very simple to use and nobody should have any fears around this or the practicalities of it". However, it must be noted that students had prior experience in Adobe Classroom. Due to the blended nature of this consecutive ITE programme, this platform was used to deliver other modules. Niall (#ST10Int) commented how LÍNTE was a different experience:

> We have had other online lectures before but I think the LÍNTE ones were way better because we never used the breakout rooms and never really had the chance to engage like we did during the school placement. With the other lectures, you are sitting there idle, but with the breakout sessions, everyone was involved and having the opportunity to interact and be active. I think a lot of it comes down to the questions that are asked of us. For the school placement sessions, it was all based around the students' experiences so were the ones that were doing the talking and we were the ones that were answering the questions and giving the ideas.

In terms of other issues that arose, Grace (#ST4Int) remarked how her tutor's microphone failed to work during a particular session: "Our tutor's microphone wasn't working. But the typing was a great feature and the tutor just used it then". As mentioned, a recurring issue was the lack of technological support in facilitating the sessions. Alongside broadband accessibility problems, issues around audio and the microphone feature arose occasionally, as noted by Grace. As illustrated previously, addressing technological issues presented a challenge for me. This problem is echoed other research studies around the facilitation and delivery of online and blended learning in higher education (Brown, 2016; Porters & Graham, 2015). For example, Porters and Graham (2015) surveyed faculty members in a higher education institute and noted that technological support was a significant factor for university faculty staff to adopt online and blended learning. On reflection, the lack of technological support distracted, and at times, detached me from my central role in LÍNTE; a HEI tutor working with and supporting students during their school placement.

6.8. Structure and Organisation of the Live Sessions

Students regularly commented that the tutors allowed them the space to engage in conversation and would make input at certain intervals. Avril (#ST2Int) noted: "We raised our issues and that and we conversed among ourselves and then we were given a chance to raise the issues with our tutor so I definitely think they were student led" while Fiona (#ST3Int) believed "we (the student) led the discussions" and the role of the tutor was "giving us feedback". Arbaugh and Hwang (2006), as discussed in Chapter Two, emphasise the importance the importance of student interaction, as without this, the community cannot develop. Revisiting the suggestions of Palloff and Pratt (2007), discourse can be enhanced through a visible teaching presence, clear guidelines, and buy-in from all participants. In addition to this, many students reported that the use of the question to facilitate the discussions were effective, particularly in the live sessions:

> What I liked was that we were given focused questions and something to talk about. If we were just to go into the breakout rooms and discuss how this week went, you would have been all over the place and you wouldn't have got anything from it. What I really like was that we were given a question, now it did lead us in different directions, and it helped get the conversation started and that led to different scenarios and different situations and what would you do here and what would you do there and I found it really helpful now. (Grace, #ST4Int)

Andy (#ST1Int) noted that students were clear on what was expected of them when engaging online: "We have the problems and so if we have a problem or suggestion, we are going to feed it back into the room or suggest it to our peers". (Andy, #ST1Int). Students emphasised the important role of the tutor in supporting, facilitating and in some cases guiding the discussions. The next section identifies the role tutors took beyond facilitating discourse, where their input and guidance added to the learning experience.

Chapter Two discussed the importance of the tutors' contributions and inputs in online learning and cautioned that a 'laissez-faire' approach could jeopardise the quality of the learning experience (Garrison, 2011). Prior to LÍNTE, the role of the tutor was discussed at the professional development sessions. It was agreed that it was important to allow students to take the lead in the discussions, to stand back and observe the patterns and the content, and then tie the discussions together and offer input or a perspective based on what had been discussed. As mentioned previously, both student teachers and the online tutors felt that the input from the tutors played an important role in LÍNTE. Mike identified the importance of the tutor input:

> If there was a period where the conversation stopped a little bit, the tutors did quite well in helping making the conversation flow. As well as that, they were excellent in reflecting on what the students were saying and responding to this saying 'oh I would try this'. For example, the tutor might come in and say that's a great idea. I have tried that myself and it is a great idea. Just giving praise and feedback and just making students feel more confident and comfortable in sharing. (#ST9Int)

Mike felt that the tutors had two primary roles: to steer or enhance the conversation if it lagged, particularly in the breakout sessions; to listen to the various inputs by the student teacher, and provide advice and feedback. Ross (#ST12Int) discussed how this was effective because at the beginning of the session there would be a "reluctance to take part" but "once the one or two questions got us going and then we were able to reflect and then after a while it was basically mostly student led" (#ST12Int). The online tutors shared similar perspectives to Ross.

> I think at the start they were tutor-led, where I started off asking about a positive experience and then problems/concerns. They were probably led by me at the start but when they were commenting on each other's questions, they began sharing ideas and they were very helpful to each other. I would say a mixture of both – initially tutor-led but then as they began to talk, it became student-led then. (Caoimhe, #OT1Int)

In addition to this, Jenny noted: "If there was ever a lull or I felt I might need to come in here, I might come in with a probing question or pick out something that they had

experienced" (#OT2Int). In reflecting on my own experience, as an online tutor, it was important to challenge the students to think further or "think outside the box" (#FNS1) through asking other students for different perspectives: "I asked other students to offer different perspectives to the positive/challenging elements that their peers were raising or discussion. I was initially worried that students might find that I am critical of their contributions by doing this but as I did this, some really valuable advice was shared" (#FNS1).

6.9. Willingness to Communicate in an Online Space

In the initial phase of this chapter, the 'safe space' was discussed, and building on the student teachers' narratives, students felt encouraged and affirmed by their peers in expressing their concerns, in seeking advice, and in sharing the overall experience. The CoI framework promotes open communication in online environments and emphasises the importance of maximising opportunities where participants are encouraged, motivated and affirmed when engaging in discourse. Revisiting the professional development seminars with tutors, effective strategies and approaches that would foster a culture of openness and when communicating online with students were explored. It was particularly important to encourage and affirm students who were reluctant towards online learning. Ken (#ST6Int) was a participant who was initially apprehensive about online learning. He recalled how he "was very wary" at the outset of the placement:

> I suppose it is an issue (online learning) for me because I am that bit older than my fellow classmates. I finished college ten years ago so they could've grown up with the online learning where for me it was a new thing…I wouldn't have had great confidence but this interaction has changed my outlook.

Initially, Ken believed that the "campus" or "lecture theatre" provided a more beneficial learning experience. Therefore, to ensure that students would become comfortable with this development, there was collective agreement in the professional

development sessions that questions would not be directed to individual students. Instead open-ended questions would be directed to the group. The tutors would then use the responses from students to facilitate the discussion (for discussion around the questions and perceptions towards the questions, please see previous chapter).

As mentioned, there was an option for students and tutors to use a voice microphone and/or a live text chat feature in Adobe Classroom. During the induction session, students were introduced to both. Certain students had initial issues using the microphone due to their own personal device hardware. To address this challenge, students were encouraged to use the text feature in place of the microphone: "There had been a lot of issues with the microphone feature today. There was background interference and echoes and students could not work this" (#FNInduction). Arising from this, and to alleviate this issue arising again, I consulted with the tutors following the induction sessions and we agreed that students could use the text-chat feature or microphones when communicating with peers. During the live sessions, many students opted to use the text chat feature when communicating with peers for myriad reasons. Certain students, such as Lisa (#ST7Int) felt that the text chat feature, provided the student with flexibility to engage in this when "working in the library in the evenings". However, Mike (#ST9Int) felt that the text feature made the sharing process easier: "I think some people would be reluctant to talk into a microphone…I think people are more comfortable when they are texting than speaking. Like you see it everyday on social media, people tend to be a lot braver". Jane (#ST5Int) raised a similar point and felt that students were more comfortable texting, due to their familiarity with Web 2.0 and social media: "Well I suppose it is part of the generation I grew up in where I am used to i-messaging and things like that". Ross (#ST2Int) felt that the text feature provided students with an opportunity to formulate and articulate

thoughts and ideas, before engaging in the discussion. Furthermore, he felt that the poor sound quality that commonly arose with the microphone feature was off-putting for students: "A lot of students wouldn't feel comfortable using the microphone. If a student tried to talk, the sound quality was not always great and because of this, I preferred the chat because you are not blurting out things and you get to understand what you are saying". Mary (#ST8Int) felt that the use of text allowed other students to record points and take notes, particularly around the advice that was shared in the sessions: "I loved it because it gave me a chance to write things down and read other people's responses. Fiona (#ST3Int) who was undertaking her practicum in an immersion context, noted that she would have lacked confidence in speaking into a microphone. She explained: "I would not have liked to use the microphone though Irish. I would not have been comfortable with the native speakers chatting away. I don't know. I wouldn't like it". However, as alluded to in the previous chapter, certain students felt the use of the microphones by the tutors was important. For example, Ross (#ST12Int) noted:

> It was encouraging to hear the voice of the tutors…their tone of voice was very positive…when you are hearing the positive advice you get reminded what you like about teaching, what you can improve on, and how good can be. I thought by hearing the tutors talk, you got a sense of positivity and encouragement.

Despite the preference by some students for the text-chat, other participants felt that the microphone feature may have been more beneficial. Even though Lisa (#ST7Int) opted for text due to working the library, she felt that it was more "laborious". For future developments, she recommended to "have certain sessions for just students who want to use microphone and for students who want to use text". Interestingly, other students raised this point by email during the intervention: "Received an email from a student asking to have a session where students can use microphones. This is a really good idea, but I am reluctant to change the existing structure as it may impact the

relationships between peers and tutors" (#PhDJournal). Irrespective of the means of communication, the most essential aspect was that students were encouraged and affirmed in communicating with peers and tutors.

6.10. Fostering Relationships through Collaborative Learning

Revisiting the literature around social presence in Chapter Two, interpersonal relationships are important within groups (Garrison, 2011). However, online educators should not become over-preoccupied with the development of relationships and social activities, as this can negate the overall learning experience. Relationships can be fostered when groups are immersed in problem solving activities, discussions and problem-based learning that are closely aligned with the learning outcomes of the session (Garrison, 2011). When exploring group cohesion and learning in LÍNTE, it is important to note that the students had prior relationships (as the student teacher participants were in the second year of the ITE concurrent programme), so there was limited emphasis or need to be placed on the "get-to-know" or "ice-breaker" activities (So & Brush, 2008, p. 322). Hence, the groups were immersed in collaborative discussions from the outset of LÍNTE. Certain students commented that they were comfortable sharing with their peers from the outset, primarily due to their existing relationships. Avril (#ST2Int) felt that she was "good friends" with the peers in her breakout group. She felt that all participants were "comfortable sharing with each other". Mary (#ST8Int) also discussed how a relationship had already been fostered with her peers: "We were all close enough anyway and I knew most people in the group". Ross (#ST12Int) also believed that the relationship "was already there as we knew each other". However, Fiona (#ST3Int) believed that the relationship with her peers developed "in the breakout room" and a relationship developed through "sharing ideas and helping the girls in the room and then a discussion came from that and then

from that". Lisa (#ST7Int) also remarked that the online sessions, and the discussions that took place within, led the students to develop professional relationships:

> Well we know each other but it doesn't personally mean that we are all in the same social circles or in groups for the workshops or classes in College. Before this, you wouldn't necessarily sit beside someone in the College who was in your breakout group and have the chats and share what is going on with them. But it just felt like we were all there for the same purpose, we knew what was expected of us, and it was very open. The people from my breakout group, I definitely would catch up with them, and ask how did you get on with this or that? It's a good way of making us bond together.

Like Lisa, other student teacher participants reported that professional relationships developed with their peers through their engagement in LÍNTE. Revisiting Avril's description of her group, she noted that the relationship with her peers moved beyond "good friends". A professional relationship developed: "It developed I suppose more professionally because we were all teaching the same level and had the same issues and we were conversing about our teaching each week with each other so it developed certainly as well" (#ST2 Int). Despite being "close enough" and knowing "most people in the group", Mary believed that if she had not engaged in LÍNTE, she may not have opened-up or discussed the experience with her peers: "Now if the online sessions weren't there, I wouldn't have taught in my head to contact them (other students) and encouraged you to think they are in the same boat as me" (#ST8Int). Andy (#ST1Int) commented that a "nice rapport" developed in his group, and how the relationship with the group moved beyond the engagement in LÍNTE: "After the sessions, there was Facebook communication with each other". Irrespective of existing or new relationships, Ross (#ST12Int) argued that the collaborative learning affiliated with LÍNTE would allow either groups to foster relationships:

> For a group that would not know each other, it would grow because when you meet somebody for the first time, your first goal is to find that something that is relevant to both of you to spark an interest. The breakout session, these were relevant, as they were class-based and the problems were similar.

This finding corroborates with the literature in Chapter Two. Garrison (2001), So and Brush, (2008) and Szeto (2015) argue that group relationships and learning can develop within an academic climate where discussion and activities that relate to the participants' learning needs are facilitated.

6.11. The LÍNTE Tutors

This section explores the perceptions of the participants towards the tutors in LÍNTE, focusing on their role around support students in learning to teach. It begins with revisiting students' perceptions towards the cooperating teachers. The perceptions of the cooperating teachers towards the LÍNTE space are then discussed. The section then focuses on the perception of students and cooperating teachers towards my role as the HEI tutor. Finally, the relationship between the learning in LÍNTE with learning to teach in schools, particularly through mentor/mentee teacher/student learning experiences, is explored.

6.11.1. Cooperating Teachers as Online Tutors

Students frequently commented on how the cooperating teachers shared 'practical advice' with students online. Student teachers perceived the contributions of the cooperating teachers as practical-oriented and focused: "The practicing teachers have years of experience and they are constantly trying things and sharing things that work in their classroom and so there is no reason why these ideas cannot work in classroom like my own" (Niall, #ST10Int). Niall welcomed the advice, as he felt that this had been verified by the 'years' of experience. As alluded to earlier, student teachers, such as Jane and Fiona, felt affirmed and encouraged by the cooperating teacher, maintaining that the cooperating teachers understood the challenges, because they were teaching in schools. Andy also welcomed the input from the cooperating teachers because they were coming from real classrooms:

> They are real teachers who work in real classrooms and are very much in tune of what is going on in modern day classrooms which I think is important too. They know what's practical and what will work, not just in theory what should work, as every class is different and they know that as well so it is nice to just have that support system as well. (#ST1Int)

The perception of the teacher, as having practical wisdom and knowledge, corroborates with the research of Clarke, Triggs and Nielsen (2014). Described as 'Advocates of the Practical' (p, 182), cooperating teachers adopt a practical orientation when guiding students.

The two cooperating teachers highlighted positive attributes with LÍNTE. Jenny described the experience as "very fulfilling" (#OT2Int) while Caoimhe described the experience as "very positive for both me and the students" (#OT1Int). Caoimhe spoke about the importance and the need to give reassurance to student teachers, particularly during their practicum element, and according to her, the online space provided an opportunity to do this: "Some people just found that what they were doing was probably OK but they needed that extra bit of encouragement so you would have to give them affirmation…sometimes they needed a little bit of extra encouragement" (#OT1Int). Jenny (#OT2Int) found that students sought "reassurance that were doing something the right way". In addition to this, Caoimhe noted how a space like this is beneficial because it allows them to "understand that they are working in a community helping each other out". Jenny felt the space promoted reflective practice: "I think this format was a really good way of reflection as opposed to actually writing something. I think reflecting with others is easier and I think on the whole, this format led them to reflect". Like Grace and Mary, Jenny also questioned the value of the written reflection:

> Written reflections are very solidarity. You do them on your own. You might not ever show somebody or share anything about it. This (LÍNTE) was a very good forum for talking, for getting the ideas, and getting people to work together

> and collaborate so I think there was a lot of learning and it is easier to learning in a space like that. (#OT2Int)

The two cooperating teachers also recalled initial feelings of apprehension before engaging in this experience, primarily due to the fact this was a new experience. The two cooperating tutors spoke about the value of the professional development sessions prior to the online intervention, and the value of interacting and debriefing at the end of each live session. Jenny spoke about how everything was "clear and transparent" and the professional development sessions "ensured that we were all singing from the same hymn sheet and we were very clear of what was expected of us, what the boundaries were, what to do if we felt something was above what we were capable of answering". Caoimhe commented that the sessions were helpful as the tutors had the opportunity to discuss "the kinds of questions to ask" and "what to do if a question came from a student who was having problems with a teacher". In addition to this, Caoimhe also found the interactions between the tutors before and after each session helpful as it provided a space for the tutors to "give each other feedback on what was going on in the different groups and maybe come feedback on what we might say to the groups in the future".

The questions that were used to facilitate the sessions were both valued by Caoimhe and Jenny. Jenny spoke about the appropriateness of the questions, particularly about the importance of focusing on a positive aspect: "I think the point of focusing on a positive moment, that is very important for students that they can share a positive thing that happened. It mightn't have been very positive overall but if they can find one thing that went well, it might boost them a little a bit". Indeed, this was previously highlighted by the student teachers in this chapter. For example, Mike (#ST9Int) referred to the "pat on the back" moment when sharing positive experiences,

and how this process helped affirm and allow students to see value and positivity in their practice.

As outlined in Chapter Five, Caoimhe and Jenny have had experienced working with student teachers. The two cooperating teachers felt that their experience of working with student teachers supported them in this role. Jenny spoke about the importance of understanding the placement experience, from a student and cooperating teacher's perspective: "You do need experience in phrasing things and how to say things properly to them as it is a sensitive time for them…you get to know the issues". She further commented that experience in working with student teachers is important as it reminds teacher of "how busy student teachers are and how new they are to everything". Jenny also reflected on her work as a Droichead mentor and felt similar issues emerged in supporting NQTs: "I would have found the same issues with both groups and it seems to be the same issues that are coming" and commented that "an online facility, like this, would be excellent for them". Within the current induction model, students attend thematic sessions in local education centres (NIPT, 2016). Jenny (#OT2Int) spoke about her experience as an NIPT mentor, and discussed how a platform, like LÍNTE, could provide an alternative for of support for NQTS:

> I think this would be very accessible for NQTS. I know the current workshops that NQTs have to do; there does be a lot of complaining about having to leave school, drive, and head in. It's a long day for them so from that respect, this would be an excellent facility for them.

When the cooperating teachers described their role in LÍNTE, Caoimhe described herself as 'the friendly teacher' who gave students "help with ideas and validate their own ideas and to help them interact with each other and give feedback to each other…a listening ear". Jenny described herself an "advisor": "I was more offering my advice, so definitely I saw myself in an advisory role". In terms of fostering relationships with the students, Caoimhe discussed: "It was nice that I was anonymous, that they didn't

know me, but they wanted to share, they wanted to run ideas by me…it was a different experience and relationship but it was a nice relationship". Jenny also spoke about this experience: "The anonymous teacher was really good because you might not necessarily be comfortable to ask your class teacher and the different dynamics and all that". When describing their role, neither tutor described themselves as a tutor or mentor. Feiman-Nemser (1998) explains that teachers fail to see themselves as teacher educators and regard the knowledge that they share "as practical information" (p. 65). Jenny remarked how she brought practical advice and experience to LÍNTE: "I felt very well placed to be able to share experience and I didn't really have to think too hard about what advice to give them or what sort of ideas to give them because I felt I had a lot of experience". This finding corroborates with Clarke et al. (2014, p.183): "Cooperating teachers excel at providing first-hand knowledge of the day-to-day workings of a classroom, a dimension of teaching that is important to successful classroom practice". Jenny also felt that the students perceived her role as being different to the faculty of the HEI: "With respect to you who was working in the College, if they were a bit reluctant to ask a lecturer, they may have been comfortable asking us".

Finally, Caoimhe expressed the importance and value of the specific breakout sessions for students in immersion contexts. She highlighted, as a teacher in a Gaelscoil and as a native of an Ghaeltacht, LÍNTE provided a supportive environment for student teachers in immersion contexts. She added that a student who is new to this context may find it overwhelming:

> It is important for students in those schools to be able to get ideas and support for the immersion schools and get ideas for planning lessons…I would really recommend that there would be one online teacher that would be able to speak to the students as Gaeilge and to help them with ideas for Gaelscoileanna and Gaeltacht schools.

This argument was also made by Fiona, a student teacher who taught in an immersion context for the first time. Fiona was praiseworthy towards her tutor Caoimhe, and her peers, and found the interaction as Gaeilge (in Irish) helpful, in developing her own language and vocabulary range: "I took the grammar to help me in phrasing my notes" (#ST3Int). Drawing on this finding, the availability of a teacher, with expertise in teaching in immersion contexts, was valued by participants, particularly a student teacher who was novice to immersion contexts. In steering LÍNTE forward, the issue around having tutors with subject-specific or context-specific expertise warrants considerations.

In relation to facilitating online sessions, both tutors remarked that they were initially apprehensive, prior to the online experience. Jenny (#OT2Int) commented: "Initially, I was a bit apprehensive as I have never had done it before". Caoimhe (#OT1Int) also noted how she felt apprehensive towards working with technology: "I suppose I would have been a little worried that the technology side would not have worked". Caoimhe had no prior experience an in an online environment like LÍNTE. Jenny (#OT2Int) noted how she was currently a 'distance learner', but felt that this role brought a new layer to her online experience:

> This was the first time taking a leadership role in something like this. I have experience in attending online tutorials for my masters but I haven't used the technology that we we used and I wouldn't be familiar in taking the lead in a session like what we did so I think after the first one, I was fine. I think initially, it wasn't that I was nervous, I was just hoping that I was doing it well for them and it was being used effectively as well. I liked the online platform.

Both tutors commented that the professional development sessions helped alleviate any concerns or issues around working online. Caoimhe (#OT1Int) felt that the professional development sessions provided her with "a very clear idea on how to use the resources". Jenny (#OT2Int) described the sessions as "very helpful, especially in regards to ICT and setting up…everything was clear and transparent because it was

organised from the start". Following professional development and an opportunity to become familiar with the online resources, both tutors commented that they did not experience any major challenges in facilitating the discussions. Caoimhe did recall "the odd problem with technology and sometimes the microphone wouldn't work and things like that but overall it was very positive". She further noted how the chat feature allowed her to address this issue: "Sometimes I had to use the chat feature, when there was the odd problem with the microphone" (see previous section where the challenge around technological issues arose and the complexities that this presented are discussed). In discussing the features of the live sessions, Caoimhe also discussed how the students in her breakout room preferred typing, but she felt that this was not an issue: "The students themselves wanted to type and that's fine as it can be daunting to speak in front of everyone". Caoimhe maintained that the preference for the chat feature, made it easier to manage and facilitate the discussions: "I think it was easier for us, as the students were not all trying to speaking to you at once". In terms of their overall role as 'online tutors', Caoimhe and Jenny felt that the lack of a physical presence did not have any impact on their rapport and relationship with their groups. To the contrary, they felt it provided a further layer of comfort for the students: "What I think what was really good about your format as I said, they were able to ask an anonymous teacher...I think the online aspect was really good for that and the anonymity of it was really good for that" (Jenny, #OT2Int). Neither tutor described any challenges with facilitating discussions, as LÍNTE progressed. Both discussed how they felt comfortable in the online space. Caoimhe described herself as a "facilitator", a "listening ear" and a "friendly teacher…to help them from afar". Jenny described the live sessions as "a very good forum for talking, for the ideas going, and getting people to work and collaborate together".

6.11.2. The Role of the HEI Tutor in LÍNTE

In discussing roles in LÍNTE students occasionally referred to my role in the third person; most commonly referring to me as the 'lecturer'. Mike specifically described my role in LÍNTE as "getting views of students, views of teachers who are currently out there now, and views of the College who run the course and know the course" (#ST9Int). Lisa (#ST7Int) perceived my role as being "the glue that kept it together…making sure that we were not running over time and all the rest…posing questions at the outset and giving guidance around the bigger issues that the practicing teachers might not have the right information or the authority to answer". Niall felt my role was different to the cooperating teachers: "Well you would bring the research base and the practicing teachers would be more experienced-base" (#ST10Int). Ross (#ST12Int) built on this description and added:

> The lecturer helped you to bring the experience back to your coursework and what you have learned. Often, you would not forget but you get so much from your coursework that you often forget about certain things and you might need a nudge to go back to your coursework and then you think oh I can go back to this module, which may have been a year ago but it is nice to have someone reminding you there.

Like Ross, Grace also made a similar point: "The lecturer was bringing in the College content and making you focus on what you learned in the College and the strategies and methodologies, and keeping this focused in your mind yet you were getting the practical side of things also so it was very beneficial" (#ST4Int). Though it is apparent that a knowledge-practice divide emerged in how students described my role and the role of the cooperating teachers, participants felt that the 'balance' of cooperating teachers and the HEI tutor working together was important (Lisa, #ST7Int). Avril commented that "it was great to get that different advice and where people were coming from different areas with different expertise" (#ST2Int). However, Lisa (#ST7Int) expressed some caution in steering this intervention forward:

> Well I think, no offence, but it is almost nice to have an external person as it is not related to anyone who might be grading your work or might be involved in your assessment or supervision when you are on placement of your performance. And in place of my tutor, if it was a lecturer who might be marking an assignment, you might be more reluctant to come up with something that you felt that you were weak on. Now that's probably silly, but it's a natural thing that people could do where they might be more hesitant to come forward with a thing that they are struggling with if it is going to maybe graded on at a later date by the same person.

Students, such as Ken, felt that HEI tutors, who had subject specialist knowledge, would also be helpful in the online line where students with specific subject concerns could be helped. Reflecting on this finding, this merits consideration for the future.

6.12. Linking LÍNTE with School-Based Mentoring and Support

Certain student teachers commented on the relationship between the learning in LÍNTE with the learning that took place in schools, through the mentoring, advice and support that they received from their cooperating teachers. Andy spoke about how he built on the dialogue that he had with his cooperating teacher in LÍNTE:

> It is kind of an outside perspective of what is happening on school placement, so you could have already asked your cooperating teacher and they could have made a suggestion but your peers might have a different perspective which could work equally as good and your tutor, they are going to be looking in from the outside so they could give you a fresh idea or fresh approach to a given problem or situation which is definitely beneficial. (#ST1Int)

Mike also spoke about the value of gathering different perspectives. He did acknowledge the expertise and knowledge of his cooperating teacher, but explained the value in seeking outside perspectives:

> Experienced teachers who have been out there for a long time; all their classroom management styles and ways its almost reactive. It is almost stuff that they have rehearsed and perfected after a long time so if you ask them about something so fine they might not know what you are talking about just because they have perfected it so well whereas when you present it to students in a supportive space, they are on the same page as you as they are only starting off and they are on the same page. (#ST9Int)

In contrast to this, Mary was complimentary of the support and feedback that she had received from her teacher and furthermore, she discussed how she shared these ideas

online: “Now I had a fantastic teacher and I could not have asked for better. She was great; even her advice”. Grace, who also felt that she gained great support from her cooperating teacher, explained that she would take ideas from online and discuss these with her cooperating teacher:

> I told him everything. This is what this person told me online, do you think this would work in this class? Yes, but try this too maybe or this might help you further. So I was trying to bring ideas and bring it by the teacher on how to implement it into his class. He loved too some of the ideas that I got online. (#ST4Int)

In Grace’s case, she believed that she benefited from engaging online, taking ideas, and in addition to this, getting the support from the cooperating teacher in implementing these ideas. Mary and Grace also discussed how their cooperating teacher expressed interest in the online interactions. Mary (#ST8Int) commented that her cooperating would ask about the “kind of advice and questions that are shared and she was really interested in this”, while Grace discussed that her cooperating teacher:

> …loved some of the ideas that I got online. He was like that’s a really good idea. I never thought of this before. He loved the ideas for the lessons. He was asking where did you get these ideas? I was saying from the College and online.

Clarke et al. (2014) discuss that a key motivator for cooperating teachers in hosting students, is the professional knowledge that can be gained from observing students. In the case of Mary’s and Grace’s teachers, LÍNTE may have perhaps provided further “exposure to new professional materials” (p. 183).

Yet, Lisa’s description of her experience was very different to her peers. She described that during her placement experienced, she received limited feedback from her cooperating teacher:

> When I was teaching the lessons, she might be out of the room or doing the things as there was a lot going on in the school so she was pulled from the classroom when I was teaching the lessons so there were times when I would have naturally asked her at the end of the lesson what did you think about this or how could Improve on that, but when she wasn’t there it was hard to. (#ST7Int)

Though apprehensive about engaging in LÍNTE initially, Lisa spoke about how the LÍNTE experience provided her the opportunity to share her experiences of her lessons with her peers and tutor online, and receive feedback, advice and affirmation. The range of examples highlights the various experiences that students have in schools. Students, such as Grace, benefitted from the support online and from the cooperating teacher. However, in Lisa's case, her placement experience remained a 'solo practice' (Conway et al., 2009). Therefore, where such experiences differ for student teachers, it reinforces the importance of having a facility, like LÍNTE, where all students can share challenges and receive affirmation and support, that is separate from the formalised assessment conducted by the HEI tutors.

This section highlights the value of having a community, where multiple perspectives can support and enhance a learning experience. Students, did perceive the role of the cooperating teachers as being different to the HEI tutor. In light of this though, the following arguments is proffered. I was the coordinator, and perhaps students and the online cooperating teachers saw me in this light. Perhaps, the involvement of an additional tutor from the HEI, may have altered these perceptions. However, the knowledge-practical divide has been regarded as challenge in ITE provision for many years (Zeichner & Tabachnik, 1981). Hence, this short-scale intervention may not alter this perception. However, by engaging in LÍNTE, all participants observed teachers, HEI tutors and students working collectively "where different aspects of expertise that exist in schools and communities are brought into teacher education and coexist on a more equal plane with academic knowledge" (Zeichner, 2010, p. 95).

6.13. Conclusion

The research findings in this chapter convey how the student teachers viewed and responded to the intervention. The student teachers, although initially apprehensive, found that LÍNTE provided a safe space where they could raise issues with peers and tutors. Students also felt that LÍNTE was a reflective space where they felt that they had opportunities to reflect on practice in a collaborative setting. Other strengths of the intervention that students identified included the live and instantaneous nature of the feedback from tutors and peers. Although students valued this experience, concerns were raised around how other school placement commitments and demands impacted their engagement. This was particularly highlighted in their perceptions of the asynchronous forum. Certain students perceived this as a box-ticking exercise. Finally, the relationships between students and between students and tutors was important in this intervention. Students valued the emphasis on student-led discourse and the input and feedback from tutors. In exploring relationships, students who received feedback from their school-based cooperating teachers felt that the LÍNTE experience complimented this feedback. Other students described how they had limited support in their schools, thus highlighting the need to have a supportive environment. Zeichner (2010, p. 92) encourages teacher educators to provide hybrid spaces which captures the "equal and more dialectical relationships between academic and practitioner knowledge in support of student teacher learning". The findings in this chapter illustrate how LÍNTE has attempted to realise Zeichner's conceptualisation of hybrid spaces (2010) whereby cooperating teachers and HEI tutors worked in tandem to support student teachers. The next chapter focuses more on the process of learning and provides examples of how knowledge was generated as students engaged in this space.

CHAPTER SEVEN: THE LEARNING PROCESS IN LÍNTE

This chapter concludes the presentation of the research findings. The findings in this chapter are discussed in relation to the following two research questions:

- What were the main issues and concerns of the students as they engaged in the intervention?
- What features of this online intervention promoted students' knowledge of and for practice?

This chapter illustrates how the issues and concerns that students raised with peers and tutors provided opportunities to enhance learning and generate knowledge, particularly knowledge of practice. Drawing on the emerging categories and themes, as outlined in Table 5.7, the following areas are discussed in this chapter: issues and concerns in planning; issues and concerns in classroom management and organisation; issues and concerns in catering for differentiation and inclusion; unpacking students' contributions; questioning; and the generation of knowledge through enquiry.

7.1. Issues and Concerns in Planning

In the earlier stage of LÍNTE, students raised concerns around planning and sought support to address this problem. In the lead up to LÍNTE, the tutors engaged in a brainstorming session and identified potential issues that students may bring to the session. Planning was identified as an issue. Demand for students to cover textbooks, external subject-specialist teachers, timetabling for team-teaching, and extra-curricular events taking place in the school, were all highlighted as regular challenges for student teachers undertaking placement (#FNPDS1). There was common agreement that students should be encouraged to treat their planning as "working documents" and "make revisions, where necessary" (#FNPDS1). As student teachers gained experience, it was important that they would reflect on their learning, display

metacognition and adaptive expertise in their planning in response to the issues that arose and the needs of the children in their classrooms (Darling-Hammond, 2006).

Students engaging in LÍNTE raised concerns around completing their lessons in the allocated time. Jane felt that she was "doing too much in the lessons" (#ST5Int). Grace believed that she was "going down the wrong road" (#ST4Int), citing time management as the primary factor. Lisa felt that interruptions in the school was having an impact on the timing of her lessons: "One thing, I'm struggling with is that is there are often unforeseen reasons in the school/class which results in my lesson being cut short" (#ST7FW2). The 'teaching is never-routine' challenge (Darling-Hammond, 2006) was clearly visible in Lisa's case. Students were encouraged to revise and amend planning if lessons/aspects of lessons were not completed. Mary discussed how this advice helped her:

> Following my engagement online, I set myself the goal of trying not to over plan my lessons or overload them with content. I have tried to set myself more realistic learning outcomes and to take into account the amount of time needed for the introduction, conclusion and each activity in the lesson development. (#ST8FW2)

Mary further discussed in the interview how the online engagement helped her to address this challenge: "The tutor said be clear on your content and don't overload the lesson. You may not cover everything in the one lesson and you may have to spread it over a number of lessons" (#ST8Int). Lisa (#ST7Int) also made a similar remark in relation to the advice she received:

> The advice came from our breakout tutor, and from the College tutor, in the closing session. In the breakout session, the tutor had suggested to keep the planning clear. Now this doesn't mean I started taking out any major activities, but simplifying them so there was less steps involved. I didn't want to compromise on the content of the lessons but I knew I would not get everything done in the lessons, from what I planned, because I may have planned for fifty minutes and the lesson realistically may have had to be covered in thirty-five minutes.

Andy felt that he was “dwelling too much on an activity or aspect of a lesson”. He explained how he raised this concern with his tutor: “Our tutor said simplify the lessons, plan two or three learning activities that can be done successfully within the time and not to overload the lesson or complicate the lesson where it doesn’t need to be complicated” (#ST1Int). Following this advice, he commented how the advice supported him in his planning: “I felt myself that I wasn’t as caught for time or watching the clock which is great, that the children were doing quality activities, and that we had time to discuss properly” (#ST1Int). Lisa felt “the experience of this placement” helped her to “to be more flexible”. I know that they (plans) need to be adapted and tweaked as I get to know the class and their abilities/interests better” (#ST7DF).

As the placement progressed, concerns around planning became less common in LÍNTE. Paul felt that experience in classrooms and in planning for the children in the classroom “came a lot easier” and “we were gaining experience and life was getting easier” (#ST11Int). According to John (2006), increased classroom experience enables student teachers to acquire a stronger grasp of planning, and as confidence develops, students can deviate from scripted approaches to planning. However, the concerns and anxieties of students in the early stages of placement cannot be ignored. Mary (#ST8Int) felt that this issue was alleviated due to the fact that this was a raised as a common issue “in the first week of the placement”, and students received support in addressing these challenges.

Preoccupation with prescribed curriculum planning and delivering content is very much characterised in the traditional construction of teacher identity (Sugrue, 1997). Students teachers, at the outset of LÍNTE, were very much consumed with completing the plans, without taking classroom realities into account. The challenges

that were shared in LÍNTE highlights the problems student teachers encounter in schools. If the problems students encountered around planning were left unchallenged, students may have employed didactic approaches and styles to get this 'content' taught. Second, the non-routine nature of teaching, a factor that makes teaching complex, overwhelmed certain students. Again, this heightens the need for a support mechanism that encourages students to be adaptive and metacognitive in light of the issues that emerge in their classroom/school contexts.

7.2. Issues and Concerns in Classroom Management

Classroom management was also a recurring issue in LÍNTE. Certain students found themselves in classrooms and schools, where cooperative and collaborative learning was a new experience for the children. Despite the emphasis on this approach to learning within the Primary Curriculum (1999) and within their HEI coursework, students sought help and advice around facilitating collaborative learning. Ross recalled how he "found it difficult at first as I introduced my own teaching strategies and philosophies that are encouraged by the college" (#ST12FW5). Niall expressed how groupwork was a 'stressful' experience due to the fact they "had not done much groupwork before" (#ST10FW4). Niall further spoke about this challenge in the interview:

> In my class the layout of the classroom wasn't helpful as they were all sitting in rows of two. My teacher on the Friday before I went in, he arranged the classes into groups, but they were still not used to groups for the first few weeks as they never sat this way in this class before so I had issues like where the students were arguing or two people in the group would be doing all the work. (#ST10Int)

Avril highlighted similar issues with facilitating cooperative and collaborative learning:

> But then with that there were some problems to do with the noise levels when the children were doing group work so particularly in Week 1 and in Week 2 due to the fact that this was new to the children, you know a new experience for

> them, they were excited engaging and then we found the noise levels had risen. (#S2TInt)

The above findings illustrate a common challenge that student teachers encounter in schools. Walshaw (2004) describes how students have to engage in 'painful negotiations' between the approaches and methodologies endorsed in their coursework and with approaches and methodologies practiced in schools. The culture of performativity and accountability, measured by high stake assessments, has challenged more progressive approaches to teaching in schools. Thus, this places students in a difficult place. Students may feel that they must conform to the culture of the school (Zeichner & Tabachnik, 1981), and be reluctant to challenge or amend existing practices within the school. This could be detrimental to their 'progressive identity', that has been shaped by their ITE experience, and could signal a shift towards a more 'traditional identity' (Furlong, 2012; Sugrue, 1997). Arising from this, attempts were made in LÍNTE to support students in introducing and/or improving the cooperative and collaborative experience. Coupled with practical guidance, such as starting small and setting clear expectation, students were also encouraged to revisit their HEI coursework, particularly drawing back to coursework learning around facilitating and managing cooperative and collaborative learning (see Cohen & Lotan, 2014). Participants who encountered this challenge welcomed this advice. Jane felt that the children were initially "very competitive and found it hard working in teams" and when "I got this advice from the tutor, I got the children to work in pairs and smaller groups, and then they got used to this" (#ST5Int). Revisiting Niall's dilemma at the outset of the placement, Niall felt that the support he received helped him to address this issue:

> One thing was suggested by my tutor to try and begin with pair work and that really really helped me and them and then the third week I moved to smaller

> groups. I suppose it worked because they all had to be involved and they could not then sit back and let the others do the work. (#ST10Int)

Furthermore, he shared this advice with his peer: "I actually raised what the tutor told me in the forum about starting small, and give roles and instructions, or organise the groups again and my mate texted me the next day to say that it worked really well" (#ST10Int).

Students also regularly reported issues and sought help around managing 'noise levels' in the classroom. Jane described a challenge she had with her class: "My class is not used to doing group work that often and a lot of my lessons involve this so sometimes they get chatty and it is unfair on the ones who are working hard" (#ST4FWk1). Ross explained how he felt that he had to have a "solid position in the class" and "found it hard for the groupwork session", as the children "were very loud and it was hard to get used to" (#ST12Int). Sugrue (1997) and Furlong (2012) note that a preoccupation with classroom control and management commonly features within student teacher identity formation. To guide Ross to re-evaluate and address this conception, and other students with similar perspectives, students were encouraged to conference and listen to the children as they engaged in dialogue:

> When I was listening and they were talking about the topic and using the new terminology and it did work very well… I was taking the negative aspects out of it because it is hard as you are always trying to do your best and you don't want to think that somebody would think your teaching is bad. (Ross, #ST12Int)

Without this space, there would have been limited opportunity to support this student to address this. If unchallenged, this may have negatively impacted the learning for both Ross and the children in his class. Initially, Ross perceived the groupwork experience as negative, believing that others may develop the impression that his "teaching is bad". Emmer and Stough (2001) describe the interrelationship between negative emotion and classroom management. Furthermore, the authors suggest that

this can impact teachers' approaches and practices, resulting in more teacher-oriented tasks and greater control and surveillance over children's learning.

In terms of support and input around cooperative and collaborative learning, students were always encouraged to persist with this approach, even if certain lessons or sessions did not go to plan. Students found that this advice helped them to address this challenge. Avril pointed out:

> Like I raised the issue about the group work learning and my concern around the noise level. The tutor said to me to be persistent and be patient, keep going with it, don't stop doing it just cause the children were noisy, and I kept doing that and I certainly noticed that the children engaged much better in the group work. Like reiterating the rules, it was conducted more efficiently so I think that was great advice coming from the tutor. (#ST2Int2)

Participants also acknowledged how advice from their peers supported them in facilitating cooperative and collaborative learning activities. For example, Lisa recalled how she received a website link for an "interactive noiseometer from a peer online" and found this to be "really helpful…a really good resource for the teacher to show the children that the noise is getting too loud and it goes up and down as the noise level goes up and down so I used that and the children loved it" (#ST7Int). Lisa felt that it supported her in facilitating groupwork and this improved the experience for her, and for the children: "I had to spend less time, not giving out, but trying to manage the noise and when I used all I had to do when circulating the room, I didn't really have to say anything while they working in the group, I just had to gesture so yes it was really helpful" (#ST7FWk3). Andy also welcomed ideas from his peer, suggesting that he would take the idea of "the 'Whisper Challenge' mentioned below" and implement this "later in the week (#ST1FWk5). Though the advice was around managing the noise factor, it was important to afford students space to support each other. It was important that students were immersed in a 'new apprenticeship of observation' (Darling-Hammond, 2006), attempting to improve and gain experience

in facilitating cooperative and collaborative learning. It also provided an opportunity to encourage students to reflect on prior coursework learning to address this challenge. Ken believed that the online discussions around classroom management were of benefit to him: "my supervisor noted that the children were fully clear on what was going on and that tied in with the classroom management that I picked up here and it made the running of the lesson much more smooth". In the case of rewards, and intrinsic and extrinsic motivation, Andy commented:

> I remember seeing that someone commented in another group about rewards systems and one tutor said not to overly use or dwell on this, as in the short term it can be beneficial but if over used, the children will lose interest over time and it won't be as effective. That's definitely something I took on board as well. (#ST1Int)

Andy felt at the outset of the placement that he "was using it a lot" but following this advice he "only used it when there was something particularly good. So then it was still a novelty to get the reward". He maintained that the children were "still motivated as it wasn't given out awards every half an hour during the day so they were still striving to get the award" (#ST1Int). Although motivation had been explored already in his coursework (Brophy, 2013), the advice from the tutor had helped Andy to further understand children's motivation in learning. This finding corroborates with Emmer & Stough (2001, p.109) where they argue that "developing understanding about classroom management thus requires experience in classroom contexts to be pragmatic".

7.3. Issues and Concerns in Catering for Differentiation and Inclusion

Catering for differentiated needs within the classroom were also frequently reported as problematic. Niall shared his concern with differentiation openly in the forum:

> Differentiation was difficult as well. I had to set some tasks at quite a high level to ensure they challenged everyone in the class…I have experience working in

> a SEN setting but this was the first time I had children with SEN in my classroom while teaching. Two children came into the class every afternoon from the ASD unit and I had to be mindful of this in my planning. (#ST10DF)

From Week 3 onwards, Avril wanted to focus on differentiation: "because I found I got to know the class a lot more after Week 1 and 2 and I came to realise that there were a lot of range and abilities' (#ST2Int). Avril commented that the advice she had received from a peer "around having differentiated outcomes for the children, particularly having work for early finishers, the higher achievers was a helpful piece of advice" and felt that it worked "very well and effectively" (#ST2Int). Furthermore, Avril shared this with others in the forum:

> Over the past week, I have also paid more attention to differentiation as I got to know my class better. I planned more challenging activities for high achievers/ early finishers and also set differentiated outcomes for lower ability students. I also engaged in mixed ability grouping across various subjects and found this worked very well. (#ST2FWk3)

Ken also expressed concerns over differentiation in the interview, and like Avril, he also noted that this issue did not arise until later in the placement: "Each kid had an ability across the twelve subjects and some were really good at Maths but not in English and it took me at least a week or two to really recognise this" (#ST6Int). Like Avril, Ken noted that the advice shared by his peers in the forum helped him to address differentiation in his own class: "One thing I got from fellow students was on using worksheets in fractions where I had different level worksheets and how they dealt with" (#ST6Int). Differentiation also presented a challenge for Grace in which she highlighted that the "range of abilities in the classroom was a new learning for me", and "working with children with SEN was all very new to me" (#ST4DF). Furthermore, she felt that she had to be "extremely considerate when planning lessons" (#ST4DF). However, Grace felt that the online discussions around differentiation did not support her in addressing this challenge. She questioned the

value of discussing and sharing this issue with peers: “People were looking for help online around differentiation but I don’t know if it could be addressed online as I felt it was specific to the class” (#ST4Int). Instead, Grace felt that this was an issue that had to be directly discussed with the cooperating teacher: “I asked my teacher about differentiation for the class because I did struggle with differentiation so it was specific to the needs of the children in the class” (#ST4Int)”. Grace also shared that she had a positive relationship with the teacher: “I worked very closely with the teacher… he was watching for improvements and how I was taking on board what he was saying”, and worked in collaboration with the teacher “around differentiating the lessons to suit the children’s needs” (#ST4DF).

In the Irish context, the implementation of inclusive practices with children with SEN continues to be met with myriad barriers and challenges (Travers et al., 2010). This is due to a wide range of variables but includes varying levels of teacher education in relation to special and inclusive (Shevlin, Kenny & Loxley, 2008). Catering for differentiation and inclusion is regarded as a complex challenge for student teachers (Darling-Hammond, 2006; Florian, 2014). Despite completing coursework pertaining to inclusive education, and a specific special education placement experience, students cited that differentiation remained problematic during this specific placement.

At the end of the placement, differentiation and inclusion was regarded an area that would require further development before their next placement. For example, Avril who incorporated advice into her practice, noted in the interview:

> Although I feel I have improved over the course of this school placement with regards to differentiation and assessment, I feel that differentiation is an element of teaching and learning which I will further pay more attention to in my preparation for my final school placement. (#ST2Int)

Avril also drew attention to this in the debrief forum, where she acknowledged the support she gained online. However, she felt the need to address this further:

> I feel I have gained experience throughout this placement with regards to the importance of planning for differentiation and indeed implementing this into my plans and across my teaching. However, this element of teaching/ learning is an area I plan to further develop and improve for my final school placement. (#ST2DF)

Ken also remarked in the interview that "differentiation was the one area I didn't really conquer" despite seeking support and implementing advice. At the end of the placement, Ken posted in the debrief forum: "Definitely for next school placement, differentiation is something I really want to get a handle on, it is an area that I need to get" (#ST6DF). Arising from this, it is important to identify why support around catering for differentiation and inclusion in LÍNTE was less effective than the previous areas discussed. Three arguments are presented:

1. The expertise and/or experience of the online tutors may have required further knowledge and professional development in order to support student teachers in addressing this area. It is noted internationally and in the Irish context, that teachers across the continuum experience challenges in developing inclusive education (O'Gorman & Drudy, 2010; Rose, Shevlin, Winter & O'Raw, 2015; Shevlin et al., 2008; Travers et al., 2010). The lack of professional development across the teaching continuum in relation to meeting the diverse learning needs of students in the classroom results in teachers lacking knowledge, understanding, and confidence and competence in implementing inclusive practice in the classroom (Travers et al., 2010). Reflecting on my own personal experience, this was documented as a challenge: "I may need further guidance as some students in my own breakout group were asking about differentiation and how to address this in their teaching" (#FNS5);

2. Strategies around supporting inclusion may require more in-depth focus and discussion. Even though LÍNTE values dialogue and reflection around teaching, the discussions were student-led and were open-ended to deal with the myriad challenges that arose for student teachers during placement. Therefore, inclusion and differentiation was perhaps lightly touched on;
3. The online discussions were very much centred around differentiation by content (what the children should be able to know, and understand), and by process (activities designed to support the children). Contemporary approaches to differentiation, such as differentiation by choice (Tomilson, 1999) was neither mentioned or promoted in LÍNTE. In steering this support mechanism forward, considerations may have to be given around increasing the expertise around inclusive practice and differentiation, either through professional development and/or to involve an online tutor with specific expertise in this area.

7.4. Unpacking Students' Contributions in LÍNTE

In analysing the discourse that occurred in LÍNTE, the interrelationship between the elements of the 'onion model' was evident (Korthagen, 2004, 2013). Initially, in the early stages of analysing discourse, the outer layers of reflection became apparent:

- Environment: the class level, the setting e.g. multigrade, the expectations of the teacher;
- Behaviours: coping with challenges that arise e.g. facilitating groupwork effectively;
- Competencies: ability to plan for all areas, ability to cater for differentiation;

- Beliefs: groupwork makes classroom management and organisation more challenging, planning for children with SEN requires specific differentiated approaches.

However, the subsequent interviews that took place with the participants in LÍNTE illustrated that the personal core elements of reflection (identity, mission) were also evident in the students' postings and contributions. To further expand on this, three examples are presented:

Andy

Like other participants, Andy noted that time management (beliefs) and covering lesson content (competencies) due to time constraints (environment) was challenging on placement. Furthermore, his ability to plan for Mathematics and English in a multigrade setting was also challenging (Environment, Beliefs, Competencies). Andy shared this concern online, received ideas, and felt "as the weeks went on, this definitely improved" (#ST3DF). However, in engaging at a deeper level during the interview, Andy (#ST1Int) commented:

> At the end of the day we are all doing the same thing, we all want to be the best teachers that we can. I definitely think there is no point keeping your ideas to yourself, why not share them with everyone else. Like that, we all have problems or issues too, which may be daunting to us but if you share in the LÍNTE room, somebody else might shed a solution to the problem that you might not have taught out of yourself which is fantastic too. It helps you get a different perspective on things.

Applying the inner-layer of the 'onion model' to interpret this further, Andy's 'mission' is to be the 'best teacher'. In this way, he feels that to become the 'best teacher', it is important to share ideas and address problems through asking questions. Furthermore, Andy sees himself as somebody who is open (identity), who values a culture of sharing and rejects isolation. In Andy's case, the interrelationship between the elements is evident. The demands of Andy's classroom context were prompting

him to get different perspectives to address these challenges. At a deeper level, Andy values collegial learning and collaboration as important in teaching: "LÍNTE was very easy to talk to and ask another in the group. This is a fantastic way to swap ideas and give advice".

Grace

As the previous section highlighted, Grace was preoccupied with the quality of her planning and in covering her planning, and this was identified as a challenge from the outset of the placement. The external layers of the 'onion mode' are evident in reflecting on Grace's online contributions in LÍNTE. For example, in her first posting in the forum, Grace "had never taught this class before" (environment), was "unsure of the curriculum level" (beliefs, competencies) and was "unable to judge if the content of the lesson was too easy or too difficult (#ST4FW2). Grace voiced she wanted to address this challenge (mission): "I've not yet figured out how I will do this but I am more determined than ever to keep the flow of the lesson going while remaining within the time frame allotted to the lesson" (#ST4FW2). Grace sought help online and wrote in the forum: "If anyone has any suggestions as to how they are achieving their time management I would be more than grateful for a few tips and recommendations". Within the interview, Grace expanded further on why she made these postings and sought help online:

> I always remember a lecturer in the College saying make sure the children are learning something new; make sure the lessons are interesting. So that is what I never thought about it before but this is first and foremost in my mind now when I am planning a lesson. How can I make my lessons interactive so that the children are learning something new but are interested in learning too?

Mary

Like Grace, Mary was always very much preoccupied with her planning and completing her lessons in the planned duration. From the outset of LÍNTE, it was a

recurring theme in her forum and online contributions: “I have been trying to work on my time management skills… all of the learning outcomes were not being achieved as effectively as they could have been…I need to be more realistic in my planning” (#ST4FW2). In the debrief forum, this was also noted by Mary: “I seemed to run out of time quite often and felt that I spent too long on some parts of the lessons and as a result some parts were quite rushed… I seemed to over plan a lot of my lessons and in turn overloaded them with content for the allocated duration of the lesson” (#ST4DF). The interview provided further depth into how Mary perceived this as a challenge:

> I was kind of panicking before this that my lessons were being cut short and I am not going to get everything done and then I felt that look this happens in every school and our tutors know this. Like I am a bit of perfectionist and I would want to get everything done and if I didn’t I would be like this is a disaster but then once you realised that everyone else was having the same experience so the advice from the tutor was really helpful for me.

Mary felt that she was a ‘perfectionist’ (a personal characteristic), that perhaps led her to plan, expect and achieve too much in her lessons. Korthagen (2012, p. 124) argues that “professional learning deepens when teachers become aware of their core qualities and use them intentionally and systematically”. Through engaging in dialogue and seeking guidance and advice, students can address these inner-feelings to improve the experience, for themselves and for the children. Providing a space for student teachers to engage in dialogue can allow for personal-oriented reflection, particularly around issues that students feel are important in their own learning, practice, and development as teachers.

This section has explored common issues that arose in LÍNTE, and highlights the kinds of support that students may need when engaging in school placement. It reinforces the importance for teacher educators to provide a mechanism where students can openly identify the issues and challenges that arise during the practicum element of their coursework. This section illustrated examples where student teachers’

identity formation, and their approach to planning, teaching, and learning were challenged, as they encountered problems in practice. Without support and input from the HEI, students are at risk of reverting back to practices aligned with the traditional construct of teaching (Sugrue, 1997). The section also highlighted the challenges that the tutors in LÍNTE encountered in supporting the range of issues that students raised; notably the problem around differentiation and inclusion.

7.5. Questioning

In terms of the questions used to guide the discussion, the student teacher participants responded positively to these questions. Andy felt that the questions were open-ended and were appropriate to capture the experience of school placement: "Even though everyone is answering the same question, the year is going to have different answers…because we are all in different schools, different classrooms, and we are all going to have different experiences" (#ST1Int). Although, students within LÍNTE were all undertaking a specific placement in primary classes, Andy believed that all student teachers would bring different experiences and perspectives. Fiona noted that she liked the "focus on the positives and negatives". She explained: "When you are talking about the positives, we are still learning from each other" (#ST3Int). The benefit from sharing positive experiences was also raised by Niall (#ST10Int): "What is working in one class might help a student who maybe having a problem with the same thing in that class". Like Fiona, Mike also believed that the focus on positive aspects of the experience provided students with the opportunity to give themselves "a pat on the back". Furthermore, the focus on positive experiences helped increase student teachers' confidence: "I think if you think about the bad stuff too much, it can almost take control over you and knock your confidence" (#ST9Int).

Mary described her placement as an "isolating experience" (#ST8Int). In her case, she had not received a visit from the supervising tutor in the first week of placement, and was concerned around this: "I was thinking I could be doing everything wrong and I wouldn't know". However, she felt that the forum postings from students during the second week helped alleviate her worry and concerns:

> It was great for people to say I am doing this well and give examples and then after giving yourself a confidence boost, you went on to write what wasn't working and you weren't on your own and there was always somebody else who had the same concern like time management or classroom management and those kind of things. So it was good to get that affirmation. (#ST8Int)

Paul felt that the recurring use of the questions for each session was helpful for him to reflect on his teaching and he "would know what to bring to the session next week" (#ST11Int). As the weeks went on and students gained more school experience, Mike felt that the "contributions were getting better too as they had a more experience and more to bring" (#ST9Int). Students such as Mike and Paul felt that the use of the two questions were sufficient, and were cautious of overburdening with students with further questions. Lisa described the questions as "conversation starters", a "good starting point", that provided a space for conversations to develop onwards (#ST7Int). Ken did feel that the use of the same questions was "repetitive…the same thing every week" and highlighted that for longer placements, a variety of question would be more beneficial (#ST6Int). This was discussed in a follow-up comment about thematic support, and having an opportunity to interact with a range of HEI faculty member during placement. Certain students described in the interviews how they reflected regularly on the questions in their day-to-day practice. Arising from this, they had a clear idea on what would be discussed before going online. Lisa commented that you would have an "idea of what you were going to sat and how to respond to questions as you are thinking about them throughout the day" (#ST7Int). Paul had a copy of

these questions in his portfolio and used them to help him reflect each day during placement (#ST11Int). Overall, Mary felt that she began to reflect more on the questions in her day-to-day teaching as the placement progressed: "I started to think about the online sessions in my day-to-day teaching as there were things that came up where I would think I wonder could I get advice around that or what did this person say about that" (#ST8Int). However, she did convey that the questions were rarely considered in the earlier stages of the placement, due to other demands. Like Mary, Jane also felt that the demands of placement meant that she would only reflect on these questions on the evening of the online session: "You are getting to know the school and the class so it was hard to focus on the questions" (#ST5Int). Grace also had the same belief: "When you are in school during the day you are not really thinking about your evaluations or reflections, I am thinking I am so busy and I need to get this done" (#ST5Int). Grace found that the most appropriate space and time to reflect on these questions was when she was writing her 'weekly reflection': "It was my weekly reflection where you thought about a highpoint during the week and two things you needed to work on so I found this was to help me focus on bring stuff online" (#ST5Int). Furthermore, Grace commented that she would also use the weekly reflection to address if and how the online engagement helped her: "I would reflect then at the end of the week, did the ideas from the online work help me or do I need more help?" (#ST5Int).

Students were provided with approximately five minutes (bridged between the introduction session and the breakout session) to reflect on the two key questions and formulate ideas for the online discussion. Students welcomed this space for myriad reasons. Lisa felt that she always knew what she was going to bring online, but appreciated this independent time: "It's worth taking a couple of minutes away so you

are not just spitting it out on the screen so it's nice to have a few minutes to reflect" (#ST7Int). Mary felt that these "few minutes" put her at ease before the breakout session, and felt that she may have got "into a panic" if she didn't have this space to think (#ST8Int). Mike felt that this space was important, as the events of the day may have had an impact on students' engagement: "It is good as if you had a busy day or haven't had enough time to really think about this before going in, it is good to have that time before you become immersed in the session". Niall felt that as the placement progressed that the timing for this space wasn't necessary as "everyone had it in their head" (#ST10Int). Yet, Ross (#ST12Int) disagreed with this and felt that this timing for addressing the questions was actually insufficient: "I think another few minutes would be no harm. It takes time to reflect on your kind of mishaps and mistakes and you want to know what exactly what you want to say". Hence, the importance of ensuring that students would feel ready and be comfortable to share, were critical. For students like Mary and Ross, the omission of this independent time may have had a negative impact on their overall experience.

7.6. Knowledge Generation through Enquiry

Cochran-Smith and Demers (2010, p. 34) argue that 'inquiry as stance' is developed within inquiry communities when teachers "pose questions" and "gather and analyze data in order to make decisions about instruction and practice" and this process affords them the opportunity to "build on their own and others' ideas and experiences". Therefore, this discussion begins with the nature of questioning that students posed in LÍNTE, and in doing so, enacted an 'inquiry stance'. In Andy's case (#ST1Int), he explained that he brought questions online because he felt that "we all want to be the best teachers that we can" and by asking questions "it helps you get a different perspective on things". Ross explained in the interview that he asked

questions relating to groupwork learning, primarily because he was encountering challenges in his class: "It is easy to do groupwork and it fails. Look I am going to go back to the book, whole class teaching, and get them to do an exercise" (#ST12Int). However, Ross was adopting 'inquiry as stance' whereby he asked questions, with the intent of improving his own practice, by gathering different perspectives; the 'knowledge' and 'tools' to 'act' on this problem (Cochran-Smith & Lytle, 2009). By posing these questions earlier in this placement, Ross believed that this problem was addressed:

> The tutors gave us positive feedback too and told us to be persistent with group work and as the weeks went on discussions around groupwork became less so I am just drawing conclusions that we may not have this problem as the weeks went on and we took the information on board.

Certain students expressed in the interview that the duration of the sessions could have factored in more time to record the ideas that were shared. For example, Andy (#ST1Int) commented about how he had to record the ideas that were shared online:

> I would have had the pen and paper there and would take ideas down that I deemed relevant or important myself. It is quite brief the online sessions so if you don't take it down you're thinking of lessons you are planning for tomorrow, what resources you are using or have to make straight after the sessions, so there is the possibility that you may forget so the pen and paper there and jot down whatever ideas or the interesting ideas that are raised.

Fiona explained: "I felt it (breakout session) was quite short and you were typing and then there was really good information but then it ended and I would have liked more time" (#ST3Int). Therefore, in steering LÍNTE further, additional time may have to be provided so that students can record the ideas shared in their online interactions. As alluded to above, Cochran-Smith and Demers (2010) maintain that the data and ideas are shared, interpreted and analysed when an inquiry stance is enacted. However, in LÍNTE, the breakout sessions predominately focused on sharing and interpreting ideas. Students would then be afforded the opportunity to apply these to their practice,

and then analyse these in discussion forum (asynchronous) that would place during the following week.

. Knowledge of practice questions the generation of knowledge, who generates this knowledge, what counts as knowledge and for whom, and how knowledge is used (Cochran-Smith & Lytle, 2009). Within LÍNTE, knowledge was co-constructed by students, teachers, and HEI tutors, in supporting students to address challenges that arose in classrooms during placement. Students were bringing ideas from their own classrooms, were asking questions, and were seeking advice around issues that directly related to their experiences and their own classrooms. The cooperating teachers and HEI tutors were also inherently connected with classrooms; working in classrooms as practising teachings, working with student teachers in classrooms (as cooperating teachers hosting students and as HEI tutors supporting and evaluating the work of students).

Knowledge of practice values classrooms as sites for research. Students teachers were very much encouraged to look at their own classrooms, their own experiences, and the needs of the children in their classes. Students frequently commented that there was so much that they brought from classrooms, and that the timing of the online sessions curtailed them in dealing with the myriad issues that emerged. Cochran-Smith and Lytle (1999) argue that knowledge for practice is not about finding immediate solutions, but instead it attempts to understand and alter practice. Though students may have sought immediate solutions, the various perspectives that participants brought, including the contributions from tutors, led students to gather a repertoire of different perspectives and ideas. Hence, student teachers were active agents in their own learning; altering and transforming practice by gathering, interpreting and implementing ideas from others.

7.7. Conclusion

The chapter began with an exploration of the challenges and issues that students encountered on placement. Three examples of students' contributions were explored to unpack further why students raised such issues in LÍNTE. A range of different issues emerged, thus highlighting the need to have a supportive environment, particularly for students who have limited support in schools. This section also flagged how learning opportunities can be developed by encouraging to students to make enquiries into their teaching and learning and to problematise their practice. Through raising issues, peers provided feedback and guidance. Tutors also offered feedback and examples of how students were encouraged to make connections with coursework was made visible in this chapter. However, the nature of questioning played an important part. The types of questions asked, which were open-ended in nature, allowed students to connect these questions to their own practice. Thus, this chapter highlights how hybrid spaces can bring practitioner and formal knowledge together to create learning opportunities for student teachers. LÍNTE challenged the 'knowledge first, practice later' approach to teacher professional learning. The nature of learning in this space was very much allied with the knowledge of practice conception where students engaged in shared dialogue and made their practice public within a supportive community of learners.

CHAPTER EIGHT: FINAL DISCUSSION, CONCLUSION AND RECOMMENDATIONS

This chapter draws the research to an end. The chapter presents an overview of the dissertation. The theoretical frameworks that have been applied in this research are discussed. The research findings are also summarised. Although this study is in its concluding phase, the LÍNTE experience is only at its starting point. Therefore, to guide its development further, a revised set of guiding principles are put forward and recommended to guide future development and design. Suggestions for further research pertaining to online pedagogy in teacher education are offered. The chapter draws on the limitations of the research. Implications for future research are also discussed. A personal reflection on the experience of undertaking this research draws the study to an end.

8.1. Summary of the Approach to the Research

Chapter One set out the rationale and context for this research, alongside providing research aims that would guide the study. Initial considerations were discussed that led to the development of LÍNTE. Chapters Two and Three presented the literature review, which focused on online pedagogy and teacher education. This study adopted a seminal online learning theoretical framework, the Community of Inquiry (CoI) framework. This framework is premised in the belief that effective and meaningful higher-order learning can take place within a community of learners (Garrison et al., 2003). Chapter Three focused on the complex and challenging nature of learning to teach. Three perennial and recurring challenge were discussed in teacher education: (1) the apprenticeship of observation, (2) the problem of enactment, and (3) complexities in the practice of teaching (Darling-Hammond, 2006). The chapter then drew on two seminal theoretical frameworks that encapsulate the importance of

knowledge generation and values school-based learning: (1) *Inquiry as Stance* (Cochran-Smith & Lytle, 1999, 2009) and (2) *Realistic Teacher Education* (Korthagen, 2001a, 2001b, 2001c, 2001d, 2012, 2013, 2014; Korthagen & Wubbels, 2001). Korthagen (2001a) describes 'realistic' teacher education as an approach which links learning and knowledge with practice, and proposes a process model to facilitate reflection (the ALACT model) and a model to explore the content of reflection (the *Onion* model). Cochran-Smith and Lytle (1999, 2009) theorise inquiry as stance as a 'habit of mind'. Inquiry as stance promotes the value of constructivist learning within communities. Both frameworks identify the potential learning that when practice is made public. Building on the literature review, Chapter Four explored the design of LÍNTE and theoretical principles were formulated from the review of literature. Learning outcomes, pedagogical approaches and the recourses that would be used in facilitating LÍNTE were also discussed.

The research approach that was adopted for this study was qualitative. The rationale for adopting a social-constructionist stance and an action-oriented phenomenological case study research design was discussed. Interviews with student teachers and online tutors, observations, and analysis of forum postings were the methods of data collection in the research. A self-designed computer-assisted approach to data analysis occurred, informed by the thematic analysis approach (Braun & Clarke, 2007). By applying this multi-phase approach to data analysis, which was deductive and inductive throughout, it enabled codes to be organised into categories, and subsequent themes.

8.2. The Theoretical Frameworks Employed in LÍNTE

Korthagen's ALACT Model

Drawing on Korthagen's theoretical framework for reflection (2001c), the ALACT process approach to reflection was employed in LÍNTE. As alluded to in Chapter Four, the live sessions would be organised and facilitated around Korthagen's five-step approach (2001b, 2001c, 2001d):

- Step One: Questions connected to the students' school experience guided the discussions; a question focusing on positive element and a question focusing on area that student may require help or advice in;
- Step Two: Students were encouraged to step away from the screen and reflect on the questions, focusing on their own school context;
- Step Three: Using the questions as a guide, students reported back to the group;
- Step Four: Peers and teacher educators responded to the students' questions/comments;
- Step Five: In the breakout sessions and in the closing sessions, the emerging issues would be discussed and the tutors would provide input and guidance

Prior to the commencement of LÍNTE, the features of the ALACT model (Korthagen, 2001c) and the ALACT model in collaborative groupings (Korthagen, 2001b) were discussed with the online tutors in the professional development seminars wherein we explored how to facilitate this reflective process in an online space. "Caoimhe and Jenny (online cooperating teachers) both agreed with Korthagen's point (2001c) around the safety/growth barrier and felt that students needed to be reminded that all contribution and questions are important" (#PD, Session 1). Korthagen's framework for reflection (2001c, 2001d) addressed the importance of providing a supportive and

safe environment. Drawing on the perceptions of students towards this experience, the cultivation of a safe space was evident in LÍNTE.

Inquiry as Stance

As alluded to in Chapter Three, the 'inquiry as stance' framework (Cochran-Smith & Lytle, 1999, 2009) was employed to examine how enquiry was facilitated and enacted by students in LÍNTE. To revisit the concept of inquiry as stance, this is described as a "theory for transforming teaching, leading, learning and schooling" (Cochran-Smith and Lytle, 2009, p. 290). Furthermore, Cochran-Smith and Lytle (2009, p. 135) caution that this should not be merely treated as a "teacher training strategy" or a "sequence of steps for solving classroom or school problem"; instead it should be recognised as "a habit of mind, a dynamic and fluid way of knowing and being in the world of education practice that carries across the course of the professional course" (p. 113). Drawing on this framework, teacher-enquiry occurred within LÍNTE, and by engaging in enquiry, knowledge of practice was produced. In posing questions, this provided an opportunity for students to 'gather' and 'analyse' ideas and data (Cochran-Smith & Lytle, 2009; Cochran-Smith & Demers, 2010). Examples in the previous chapter have also highlighted the kinds of support students sought and examples where students implemented these ideas into practice. 'Inquiry as stance' is grounded in the idea that local knowledge is transformative, interactive and rejects the formal knowledge-practical knowledge distinction (Cochran-Smith & Lytle, 2009). The knowledge generated in LÍNTE very much related to the knowledge of practice concept. Furthermore, knowledge of practice places a value on oral inquiries and dialogue around matters relating to teaching, learning, and schooling:

> One of the most striking images of learning by generating knowledge of practice is the image of teachers engaging in oral inquiry. Studying practice through oral inquiry is based on rich conversations about students' work, teachers' classroom observations and reflections, curriculum materials and practices, and classroom

> and school-related documents and artifacts. (Cochran-Smith & Lytle, 1999, p. 279)

The findings in this study highlighted that students found that the experiences of verbal interaction and dialogue was more beneficial than written reflection. Furthermore, by providing a platform, students can engage in enquiries about practice, again supporting the need for more interactive collaborative dialogic opportunities around placement experiences. By asking questions, gathering ideas, and sharing experiences, students were active agents in reconfiguring their practices, and by engaging in this process, knowledge of practice was generated.

The Community of Inquiry Model

In Chapter Two, the rationale for selecting the Community of Inquiry theoretical model to guide the design and development of the online learning was discussed. To revisit the epistemological underpinnings of this model, the CoI is grounded in the philosophical perspectives of John Dewey (1933, 1959). The core of the Community of Inquiry model values constructivist-collaborative learning. Teaching online can be a challenging and complex activity (Anderson et al., 2001; Garrison, 2011) and failing to amend or shift practices and pedagogies accustomed with face-to-face teaching, can negate the overall online learning experience for students and teaching (Palloff & Pratt, 2007). As a novice online educator, it was important to draw on the teaching approaches that are espoused in the online pedagogy literature. Therefore, the three elements that are primarily focused on in Chapter Two are revisited: course design and organisation; facilitating discourse; and direct instruction. The perceptions of the students towards effective online teaching are also discussed.

Palloff and Pratt (2007) argue that any design around online learning and teaching should be guided by clear measurable learning outcomes, include learning activities and interactive resources, and students and tutors should be made aware of

the protocols from the outset. Furthermore, the design of the course should be delivered in a realistic timeline. Drawing on this advice, Chapter Four presented a roadmap for LÍNTE. Specifically, considerations around learning outcomes, indicative content, and pedagogical approaches were discussed. Additionally, the chapter examined the technological resources that would be required, and drew on the available resources within the HEI. In designing a roadmap to facilitate LÍNTE through an online platform, this proved to be important and useful. First, the roadmap captured the design principles, informed by the literature review in online pedagogy and teacher education, and thus, learning outcomes were formulated. Second, it provided a structure which focused on the facilitation of the sessions. Third, it helped inform and structure the professional development sessions with the two online tutors. The organisation and design of LÍNTE was discussed with the tutors at the professional development seminars, and amendments and revisions were made in light of the discussions at these sessions. As alluded to in Chapter Six, the two tutors expressed initial apprehension around the experience. However, they felt that the clarity, structure and organisation around LÍNTE helped alleviate any initial concerns: "I suppose I would have been a little worried that the technology side would not have worked so I had a very clear idea on how to use the resources" (Caoimhe, #OT1Int). Within the professional development sessions, the online tutors were introduced to the online platforms and had the opportunity to explore the various features. As discussed in the previous section, Jenny described this experience as important as it was "very helpful especially in regards to the ICT and in setting up" (#OT2Int). Additionally, students also had an induction session where the learning outcomes, indicative content, and structure of the sessions were explained. Protocol and procedures were also outlined including the expectations, and alternative options for those who did not

want to engage online (students would have the option to engage online or complete a lesson reflection). The potential value and learning opportunity that could be gained from this experience was also discussed. In addition to this, students were organised into breakout sessions and were afforded the opportunity to engage with the resources in Adobe. Therefore, when the practicum commenced and the LÍNTE experience began, both students and tutors had prior engagement with the technologies and were clear on the structure, expectations and the intended learning. Thus, the emphasis and value placed on careful course design, espoused in the CoI framework, proved extremely helpful to me, a novice to online teaching, in designing and facilitating LÍNTE.

In Chapter Two, the dearth of CoI literature and research around students' perceptions of effective teaching presence was identified as a shortcoming of this framework. Therefore, student teachers in LÍNTE perceived effective teaching presence as follows:

(1) Students perceived that the communication from the tutors was important in LÍNTE. In Chapter Six, students expressed initial apprehension around the online experience. However, when students began engaging in the discussion, this helped them to alleviate any concerns. Furthermore, students found that the presence of the tutor was important, in supporting and guiding the experience. Andy described the role of the tutors as "an important part as they guide the conversations or guide the issues that are going on" (#ST1Int). Furthermore, beyond facilitating the session, Andy noted that the tutors gave "feedback on what could be the best thing to do in the given situation". Furthermore, Niall highlighted the importance of having a tutor: "You have to have a tutor because the discussion may lead nowhere and you

need to direct the discussion". Building on the previous findings also, he felt that the tutors can "give you a more experienced perspective" (#ST10Int). The above findings corroborate with the research of Sheridan and Kelly (2010), who found that students perceived communication from the tutors as an essential component in effective online teaching;

(2) The role of tutors in fostering a community was also perceived as important. Students maintained that the tutors facilitated a process where students could naturally engage in conversation. Through asking questions at the outset, a "domino effect" occurred (Ross, #ST12Int), where students were building on each other's contributions. Fiona was critical of the timing of the sessions and she felt that timing cut the conversations short: "I think I felt it was quite short and you were typing and then there was really good information but then it ended and I would have liked more time". Furthermore, she suggested: "Even if we had the opportunity to chat amongst ourselves and follow it, but I know the tutors had other sessions but even if the students had a space to continue on chatting on what we were talking about" (#ST3Int);

(3) Students describe effective teaching presence as the sense of belonging' that is fostered by online tutors (Sheridan & Kelly, 2010). In this study, students remarked how the tutors affirmed and encouraged them, and how all perspectives were welcome within LÍNTE (this is discussed in greater detail in Chapter Six);

(4) Shea et al. (2010, p. 142) note that an effective teaching strategy online is where tutors encourage students to make connections and linkages with the "public [online] discourse" and "their own private cognition". Though

LÍNTE was focused on the practicum experience, students were encouraged to relate to their own experiences;

(5) Revisiting a critique of the term 'Direct Instruction', Shea et al. (2010, p. 142) highlight that students perceive that effective teaching can occur in "varied and subtle ways". Their study also found that successful teaching presence was not measured on direct participation. Instead, the interaction with students was recognised as the important factor. Within LÍNTE, students were encouraged to be open, and through positive interactions with peers and tutors, students opened up about their experiences. Thus, as Chapter Six highlighted, the sharing of such experiences helped students to generate knowledge of practice.

As Chapter Two highlighted, the importance of a teaching presence online is critical for both maintaining and facilitating social presence. As discussed in Chapter Two, social presence plays an important role in online teaching and learning and merits careful attention. Drawing on the literature pertaining to social presence in Chapter Two, it was important that learning experiences would be developed which would allow for interpersonal relationships and interactions to occur. In concluding this section, social presence cannot be sidelined or disregarded when designing and facilitating an online learning experience (Garrison, 2011). An over preoccupation with relationship building (So & Brush, 2008), can negate the overall learning experience. LÍNTE immersed students in collaborative learning from the outset. However, as this section has illustrated, other important actions and considerations had to be factored into sustaining social presence. The importance of greetings, acknowledgements, encouragement and empathy were important for students to interact and engage with each other and with the tutors.

As explored in Chapter Two, cognitive presence focuses on the learning process. The Community of Inquiry values reflective and critical thinking, underpinned by the Deweyan philosophy of enquiry (1933, 1959). The CoI theorists (Garrison et al. 2001) maintain that the practical inquiry model can effectively facilitate reflective learning and critical thinking. Revisiting the four stages, which are examined in detail in Chapter Two, the model of practical inquiry is organised accordingly: (1) it begins with a triggering event, which can include a challenge, issue or dilemma; (2) the second stage is focused on exploration, searching for information that addresses the triggering event; (3) the third stage moves towards integration where the learner articulates and crystalises the ideas; (4) the final section is focused on the resolution and exploring solutions. The practical inquiry model captures learning in both the personal/private world and in the shared world (Garrison et al., 2001). Alongside approaches to facilitating reflection and enquiry, as espoused in the theoretical frameworks in the previous chapter and in Chapter Three, the stages of this practical inquiry model were also incorporated into facilitating the learning experience in LÍNTE, particularly in the live sessions. The forthcoming subsections explicitly identify the effectiveness of each phase of the Practical Inquiry model, and captures the students' perceptions towards each stage, and the overall experience. Furthermore, the commonalities that exist between the phases of the practical inquiry model and the theoretical frameworks around teacher professional learning, particularly the ALACT model (Korthagen, 2002) and Inquiry as Stance (Cochran-Smith & Lytle, 1999, 2009) are discussed. The first phase of the practical inquiry model reflects the initiating or triggering stage and this usually is triggered by presenting a challenge, question or task. The triggering stage during the live sessions was primarily centred on the use of questions, that were much aligned with the practicum experience. Students

commented that the use of questions were open-ended and it enabled them to bring different perspectives to the overall experience. Avril (#ST2Int) described the questions used at the outset as the "bones and the purpose behind it" and the questioning approach kept students "focused dealing with each issue". The use of the question allowed students to identify issues that emerged from their practicum experience. The role of the online tutors was to initiate the discussions. The approach espoused in this model is also featured in the ALACT model, where a problem should be presented and suited to the student teachers' experience. Similarly, in Inquiry as Stance, the posing of problems enabled students to apply these questions to their own learning context and make enquiries into their practice. The exploration stage, according to the CoI theorists, involves students moving between the private and the shared world of reflection. Students address the problems, by reflecting on their own experience, and then by engaging in discourse. This is an iterative process whereby students are moving between the shared and private world. In the case of LÍNTE, this was evident. Paul (#ST11Int) discussed how he reflected on the (trigger) questions in his day to day practice and how he had a copy of these questions in his teaching portfolio. Students like Mary (#ST8Int) spoke about the importance of having the time and space before the breakout sessions commenced to step away from the computer and reflect on the questions. She felt that these "few minutes' helped her to capture the thoughts and reflect on her own practice. In terms of the iterative process, the sharing of experiences and interactions, enabled students to gather "different answers" and explore "different experiences" (Andy, #ST1Int). As discussed in Chapter Two, the integration stage is characterised by students constructing new knowledge, meaning, and ideas, following their engagement in the exploratory phase. Garrison, Anderson and Archer (2004, p. 4) note: "During the transition from the exploratory

phase, students will begin to assess the applicability of ideas in terms of how well they connect and describe the issue or event under consideration". Chapter Six provided examples of the kinds of support students sought, alongside sharing positive elements relating to the experience. Chapter Six highlighted how this process enabled students to generate knowledge of practice. In helping students address challenges and develop their thinking, tutors provided support, advice and guidance to students. Lisa (#ST7Int) discussed how her tutor "popped in" with ideas. Jenny (#OT2Int) explained that she "was conscious of having them (the discussions) student-led". Her role would be to "come in with a probing question or pick out something that they had experienced". As the previous chapter discussed, students valued the tutors' perspectives; the sharing of "practical" guidance (Andy, #ST1Int) by online cooperating teachers alongside the sharing of "college content" by the teacher educator and "making you focus on what you learned in College" (Grace, #ST4Int). Again, this input from the tutors is promoted in the teacher education frameworks. For example, Korthagen (2001b) discusses the role of the teacher educator in providing feedback to help the students to address the issues or dilemma or to help them to answer the question and generate new knowledge and learning. The resolution phase in the practical inquiry model involves the student addressing the problems, and practically applying the knowledge and learning that has been developed. Inquiry as Stance (Cochran-Smith & Lytle, 1999, 2009) promotes knowledge generation through enquiry, where students address issues, and problematise practice, to essentially improve their practice. The 'trial phase' of the ALACT model (Korthagen, 2001b) emphasises the implementation of the learning that has been acquired through the process of reflection. Similar to the models of Korthagen (2001b) and Cochran-Smith and Lytle (1999, 2009), the cyclical nature of reflection is central to the practical

inquiry model: “Educationally, the end of this phase may require the moving on to a new problem with the assumption that students have acquired useful knowledge” (Garrison et al., 2004, p. 5). The structure of the live sessions during the practicum afforded students with the opportunity to address new learning as they emerged during the placement.

As discussed in Chapter Two, the collaborative and reflective nature of the Community of Inquiry can lead to the development of metacognitive awareness in online students. Garrison (2013) notes that the collaborative and reflective properties, that are espoused in the CoI framework, encourage students to become metacognitive, particularly when students engage in ‘practical inquiry’. As learners are defining problems, searching for information, sharing and gathering ideas, and developing knowledge and understanding through this process, they are also developing metacognitive awareness (Garrison, 2013). LÍNTE facilitated a process which captured individual and share reflection; students were provided with the opportunity to oversee and assess their own learning needs, that arose in the context of school placement. Although there was initial apprehension, students reported how they became increasingly confident in sharing their experiences and recognised and valued the learning that was acquired through engaging in reflective enquiry. Garrison (2013) maintains that the tutor plays a critical role in facilitating metacognition. Tutors within LÍNTE provided opportunities for students to reflect, as well as monitoring the sharing process amongst students, interjecting when necessary and probing the conversation at various intervals. Aforementioned, questions were formulated and strategies were discussed that would encourage and afford student teachers with the opportunity to reflect on their own experience and acquire new learning through shared reflection and enquiry. The importance of scaffolding the students in this process was also

essential; encouraging and motivating students, offering personal perspectives and anecdotes, sharing ideas, and asking probing questions.

Alongside metacognition, self-directed and regulated learning occurs as students engage in practical inquiry (Garrison, 2013). The practical inquiry model provides opportunities for students to reflect on their own learning needs, learning context, and make enquiries (reflection) to resolve problems or issues that have emerged in their practice. Furthermore, they apply this learning to their own context (action). Garrison (2013) notes that educators must encourage students to assume responsibility and control of their learning. In the case of LÍNTE, students were made aware from the outset that LÍNTE would provide opportunities for students to share experiences, and raise issues and concerns that pertained to their own practice and context, in a supportive collaborative learning environment. As the sessions began, students were then further challenged to reflect on their thinking and improve their practice by the advice shared online. Hence, students were taking responsibility for their own learning; raising issues and seeking help around challenges and problems that they encountered in their own practice and providing advice to peers around elements of their practice that had been working well.

In applying the Community of Inquiry framework in facilitating the online learning dimension, I believe that this framework has played an important factor in the development of this intervention and in the success of this intervention. The epistemological underpinnings of this framework, collaborative constructivist learning, are very much aligned with contemporary teacher education pedagogy and epistemologies. The framework from a practical perspective, proved beneficial in the both the design and in the facilitation of LÍNTE. The importance of clear instructional design was essential. As discussed, the online tutors valued the clarity around the

facilitation of the live sessions, and this alleviated any anxieties around teaching online. The Community of Inquiry values discourse, and this should be facilitated through a process where learners articulate and present their views (Shea et al., 2006). The LÍNTE experience captured this. Student teachers, as discussed in the previous chapter, raised questions about teaching and learning that pertained to their own classroom context, and in doing this, engaged in reflection about their own teaching. Student enacted 'inquiry as stance', by posing questions, and by sharing and receiving advice, with the intent of addressing issues that emerged in practice. Students were clear from the outset that this was not just a conversation or social space. Even though interaction was central to the process, students were expected to engage in discourse that was aligned to their own learning and practice. Students raised question, sought advice, shared positive elements from their practice, and applied the knowledge and learning to their own setting (see Chapter Six). A critique of this framework related to the emphasis on direct instruction, which is characterised as an important indicator in successful teaching presence. The description or expectation of direct instruction is somewhat unclear. This also has been noted in the research of Swan et al. (2009) who argue that direct instruction should be integrated with facilitating discourse (a separate indicator, which is also perceived an indicator of successful teaching presence). Reflecting on LÍNTE, instruction was provided by tutors through their engagement in the discourse that took place. Hence, from this, I would support the suggestion of Swan et al. (2009).

Considering other Online Learning Frameworks

Online Communities of Practice

As discussed in Chapter Two, online communities of practice (OCoPs) share the same features as a community of practice (CoPs) and the three key elements of CoPs are evident in the online or virtual space: domain, community, and practice:

- For the students in LÍNTE, the domain was centred around learning to teach in primary contexts. Through sharing experiences, identifying challenges, and asking questions, should were learning about teaching alongside constructing knowledge of practice and developing reflective dispositions in doing so;
- The essence of community was developed through interactions amongst peers and tutors. Students began to value the contributions that their peers made, and noted that they felt affirmed and motivated by listening and interacting with their peers. Though relationships existed prior to LÍNTE, the students valued the development of professional relations that emerged within the community.
- Practice is concerned with the knowledge that is developed and shared within the community. The practice in LÍNTE was primarily related to the knowledge and learning that was constructed though a shared process. The live sessions and the asynchronous forum provided a repertoire of teaching approaches, strategies, ideas and resources. Students frequently shared online resources to each other in the live sessions, by pasting website links into the chat feature. This also occurred in the asynchronous forum where students at times included images of displays, attached resources, and included references to websites.

There are similar findings between the OCoP and CoI. Swan et al. (2009) note that the community of inquiry can be used as a mechanism to establish OCoPs. However, strategies to foster successful teaching presence appears absent in the literature

pertaining to the OCoPs. OCoPs are more primarily concerned with social nature of learning. Though critically important, other factors for the novice online educator cannot be sidelined, particularly considerations for the design aspect of the online learning experience.

Conversational Framework

The Conversational Framework (Laurillard, 2002) is also very much focused on online teaching. However, as argued in Chapter Two, the teacher is a central figure in this framework. In LÍNTE, the key emphasis was on interaction between student and student. As discussed in this chapter, the tutors played an important role in probing thinking, providing feedback and guidance, and enabling the students to make linkages. Though elements of Laurillard's Conversational Framework (2002) were evident, in particular the adaptive and reflective phase, the emphasis on the task constructed by the teacher was not at the forefront of LÍNTE.

8.2. Summary of Key Findings in Relation to the Research Questions

To provide an overview of the key findings that emerged in Chapter Six and Chapter Seven, I now address and revisit the key research questions that underpinned this study. This section, however, is a summative account. Therefore, it is advised that Chapters Six and Chapter Seven are read beforehand, to draw further depth and scope to the findings.

How did the student teachers view and respond to the 'learning to teach' intervention?

In the lead up to and in the initial stages of LÍNTE, student teachers discussed how they felt apprehensive towards this new development in their initial teacher education programme. First, the 'online' aspect was flagged as a concern by some students. In the interviews, certain students discussed that they questioned the

effectiveness of learning in an online environment, and signalled a preference for learning in a face to face setting. Although reluctant at the outset, the space for familiarisation with the technological resources and engagement in the experience led them to see value in this approach to learning. Second, students also perceived this as a further layer of work. The demands of daily planning and evaluation, alongside engagement in LÍNTE, was signalled by students as a concern. To address this, students were not required to write evaluations on evenings when they were engaging online. Finally, students were reluctant to discuss challenges and problems in practice as they felt their peers and the tutors might question their competency and ability. However, as they engaged in LÍNTE, students overcame this concern. Students described how this experience was a safe supportive space that was tailored to their needs and their school-based experience. The affordance and space to dialogue with peers was an important factor and was lauded by the students. Students recognised the value in sharing their experiences, particularly around their challenges and problems on placement. They felt that they could raise issues that were relative to their own context. Students noted that issues raised by their peers raised were also relative to their own experience. Advice and guidance from peers was welcomed and students found that this was helpful to them. Alongside interaction with peers, students also felt that the tutors had an important role in this safe space. Students remarked that tutors interjected with guidance and feedback, and at times challenged the students' thinking. However, this was constructive and positive in nature. The acknowledgment of challenges in the practice of teaching, coupled with encouragement to persist with approaches and methodologies endorsed in their coursework was valued. Thus, empathetic, affirmative and constructive feedback was key in the cultivation of a safe space. Students also felt that they were engaging in reflective practice. Some students

had a tendency to question the value of writing reflections on placement, noting that that this was an isolated process. In contrast, they felt that the LÍNTE experience afforded them the opportunity to identify problems and challenges in a collaborative setting. Other students who saw value in writing reflections felt that LÍNTE provided opportunities to further build on what had been addressed in these reflections.

The majority of the student teacher participants felt that the live sessions (synchronous) were much more beneficial than the forum postings (asynchronous). Students felt that the live sessions were interactive whereby students and tutors were engaging in real-time. The nature of the live sessions, particularly the small-group breakout sessions, allowed students to interact with their peers and with tutors and there was an opportunity to address and respond to issues there and then. However, certain students felt that the volume of information shared in the live sessions was hard to process and they noted that the sessions would have benefited from a longer duration with more time to summarise the key issues at the end. Although the closing sessions focused on consolidating the key issues, they felt that it was somewhat rushed. In contrast, some students valued the asynchronous forum as it allowed them to process the information in a period of time that suited them. However, as alluded to above, the value and purpose of the asynchronous sessions was critiqued by others. First, certain students perceived this as another form of a written reflection, whereby it was written and posted in isolation. The lack of a live presence of peers and tutors led students to perceive this as a box-ticking exercise where they posted to the forum to fulfil the requirement. Although other students believed that there was value in forum interaction, they felt that the multiple demands of placement distracted them from adequately engaging in the asynchronous forum, particularly reading and reflecting on their peers' postings. Finally, participants noted that students had a

tendency to post at different times and students felt that this impacted engagement in the forum.

Although participants were comfortable in using the resources in both the live and asynchronous sessions, accessibility issues arose for certain students which impacted the learning experience. A recurring issue for participants, particularly for those who were engaging in LÍNTE in rural settings, was around broadband bandwidth connection. Students discussed how they frequently lost connection and this would result in them having to re-join the session. Although this was not highlighted as a major issue, students felt it impacted their engagement and that they had to relocate themselves in the discussions. Issues with audio frequently arose for tutors and students. Students had a tendency to revert to using the live text chat feature. Certain students felt more comfortable in using this facility. However, other students felt that their broadband bandwidth connections impacted the audio quality and students who attempted to use the microphone feature reported echo, static and feedback. On one occasion, this issue also arose for one tutor and the tutor had to revert to using text-chat. The absence of a learning technologist during the live sessions was problematic as there was limited support to deal with such problems. To maximise online learning, the above issues reinforce the need for improved broadband bandwidth connectivity at national level and appropriate technological support at institutional level.

What were the main issues and concerns of the students as they engaged with the intervention?

Students in the early stage of the placement were preoccupied with issues pertaining to preparation and planning, and expressed concern around completing the planned content and material in their long-term schemes. Student teachers also frequently shared concerns around ‘noise-levels’, and sought support around

managing and exercising noise-control during group-based learning activities. Furthermore, certain students were reluctant to facilitate group-based learning activities due to elevated noise levels. This conflicted with the emphasis on constructivist and dialogic learning that is endorsed in the Primary Curriculum (DES, 1999) and in their ITE coursework. Certain participants were concerned that they would be perceived as 'weak' if control and authority was not exercised, a viewpoint that emanates from the traditionalist notion of teaching (Sugrue, 1997). The interviews highlighted the underlying reasons why certain students were preoccupied with control and authority in the classroom. Despite the redesign of initial teacher education programmes, this research highlights that students continue to have beliefs and conceptions that are allied with traditionalist perceptions of teaching and teacher identity and as illustrated in the findings, this can present problems for students on school placement. Students were also challenged in classrooms where groupwork was a 'new experience' for the children and this made such approaches more challenging. Although the cooperating teachers allowed students to implement this, the transition to this style of learning proved challenging for the children and the student teachers. Differentiation was also an issue raised by participants. Students sought advice around dealing with the diverse learning needs in their classes and sought advice and support from peers and tutors in an attempt to address this challenge. The tutors also inputted and offered advice and suggestions and students were encouraged to make linkages with coursework learning. The notable challenge was the limited knowledge around effective differentiation. Although students had identified this as a challenge online, students still felt that they needed further support in this area at the end of the placement.

The challenges and issues that emerged in the discussion were very much aligned with literature, particularly the triad of challenges in learning to teach (Darling-Hammond, 2006). Student teachers' apprenticeship of observation and lay theories around control and classroom management emerged as an issue, notably in the facilitation of group-work learning. Second, the complex nature of teaching, characterised by elements including an increased emphasis on accountability, diversity, and constructivist pedagogical approaches (Darling-Hammond, 2006; Hammerness et al., 2005) presented problems for students in LÍNTE and these issues were raised in the discussions. Finally, the challenge of enactment was also evident. Students were undertaking placements in certain school contexts that challenged them in enacting methodologies and pedagogy that were endorsed in their own coursework. As discussed, students were challenged when implementing their approaches and methodologies, due to children's limited experience with such approaches to learning.

What features of the online intervention promoted students' knowledge of and for practice?

The process of identifying issues and challenges in practice provided an appropriate context for students' knowledge of and for practice to be refined and developed. In respect to issues pertaining to planning, student teachers were encouraged to develop adaptive expertise in their planning and in their delivery of lessons. Students were advised to respond to (a) the needs of the children in the class, (b) unanticipated events arising, and (c) pacing and pitching content to the level that suited the class, as opposed to getting the original lesson plan or long-term scheme covered. In relation to classroom management and organisation, students were prompted to make connections to their coursework. For example, the concept of facilitating collaborative and cooperative learning (Cohen & Lotan, 2014) was

revisited in sessions where groupwork was problematic. Alongside refining knowledge for practice, the focus on issues and problems, alongside elements of the students' practice that had been going well, provided an appropriate context to develop knowledge of practice. By sharing strategies and examples of what had worked well and by listening to alternative perspectives of students and tutors, students were generating knowledge. For example, the focus on positive affirmation over extrinsic motivation was a visible example, where students began to review the limitations in reward incentives. The design and framing of questions was fundamentally important in allowing students to generate knowledge of practice. Although the same questions were used for each session, students generally felt that the questions were appropriate as it enabled them to apply these questions to their own classroom context. The focus on the positive element was valued by participants as (a) students felt that an element or approach that might be working well in one class may be presenting problems for student in another class and (b) it brought a sense of affirmation to the students where they were encouraged to identify positive elements of their practice. Although it was cautioned that the overuse of these questions could potentially make the learning experience repetitive, other participants felt that the emphasis on the design of the questions should continue to be focused on starting the discussion. The use of questions that are prescriptive or tightly focused may lose value with certain participants as they may or may not relate to their own learning context. In relation to the framing of the questions, students were enacting 'inquiry as stance' in their own classrooms. Students were encouraged to raise and pose questions that related to their own experience, classroom, and needs of the children in their class. As students gained more experience in their teaching and became more comfortable with peers and tutors, students noted that there were a wide range of topics that could have been potentially

discussed in the live sessions. Students felt that the presence of peers and tutors allowed them to gather a repertoire of ideas. Students reported that they raised issues because they set out to alter and transform existing practice by gathering perspectives and guidance from other participants in LÍNTE. In discussing knowledge construction and generation, it was evident in the presentation and interpretation of the findings that the design of LÍNTE, which was underpinned by the frameworks of Garrison et al. (2001), Korthagen (2001c), and Cochran-Smith & Lytle (1999, 2009) were critically important in the facilitation of a collaborative online learning space. The framing of questions that are aligned with the learners' own context, the role of the tutor in the learning process, and the emphasis on constructivist learning provided the bedrock for the knowledge that was shared in the LÍNTE space.

How did interpersonal relationships and dynamics influence the learning process and outcomes in the intervention?

Although the student teachers had known each other before engaging in LÍNTE, the majority of the students believed that a professional relationship developed, that had been absent prior to the experience. The LÍNTE space allowed the students to explore issues relating to teaching and learning and this brought cohesion to the overall learning experience. Students became affirmed and were comforted when their peers empathised with them and felt encouraged and motivated by ideas and suggestions that were offered to help them. Students felt reassured to see other participants having similar issues in their own practice also. By the end of experience, students maintained that they could be more open about their practice with their peers and furthermore recongised the value in sharing practice with others. Alongside relationships with peers, student teachers valued the interactions with the two cooperating teachers in LÍNTE and felt that the presence of the cooperating teachers in the online space

influenced the learning process. Student teachers felt that the cooperating teachers brought advice and guidance that was grounded in practice. They felt that the cooperating teachers' daily classroom experience was important as the cooperating teachers had an appreciation and understanding of the challenges that students encountered in their day to day practice. In terms of the role and presence of the HEI tutor in LÍNTE, they felt that the HEI tutor prompted and guided them to make linkages with their coursework learning.

In taking on the role as tutors in LÍNTE, the two cooperating teachers felt that the professional development sessions provided them with appropriate support and helped to familiarise themselves with the technological resources. Beyond minor technological glitches, the tutors noted that they did not encounter challenges when engaging online. Moving towards the role in supporting student teachers on school placement, they found the experience beneficial for students and for their work as cooperating teachers. Overall, the lack of a physical presence did not negate or undervalue the learning experience or the development of relationships. This distance provided students and tutors to develop a professional relationship and according to the tutors and student teachers, the anonymity factor allowed students to be more open when sharing their experiences. The cooperating teachers felt the professional development sessions were valuable as the issues that students might raise were explored and procedures and protocols around facilitating the sessions were clarified. Moving forward, this reinforces the importance of opportunities in teacher education where cooperating teachers and teacher educators work the knowledge-practical dialectic (Cochran-Smith & Lytle, 2009), and allow teachers to recognise that their role is beyond merely providing practical guidance (Clarke et al., 2014; Feiman-

Nemser, 1998). As the research has illustrated, cooperating teachers made an active and importation contribution to student teachers' learning and development in LÍNTE.

8.3. Steering LÍNTE Forward: Key Design Principles

Arising from the discussion of the theoretical frameworks and key research findings, five design principles are put forward that provide a roadmap for future development of online learning hybrid spaces that are aligned with school placement experiences. The formulation of the design principles draws on the literature, research findings and conclusions that have emerged. Withstanding the limitation of a case-study methodology, these principles may not be applicable to all HEIs, and therefore should not be treated as prescriptive. Finally, the principles should be read collectively as the principles are inter-related and inter-dependent.

8.3.1. Principle One

Collaborative reflection and enquiry should be central to the experience

Online learning communities that are centred around school placement should remain to emphasise collaborative reflection and enquiry that is (a) focused on students' placement and (b) provides opportunities for students to take a reflective and enquiry stance in their own learning contexts. The design of such experiences should continue to emphasise the value of dialogic reflection and provide a supportive, well-resourced learning environment that is appropriate to the students' learning needs. This provides an environment where students can engage in a reflective process, which can be enhanced and developed through interaction with peers (Garrison et al., 2001; Garrison, 2013; Korthagen, 2001d, 2014). Such online communities should continue to provide opportunities for teacher educators to address, challenge, and alter lay theories that may challenge or negate the approaches that are endorsed in their research-based teacher education (Furlong, 2012).

The design and facilitation of such experiences should provide teacher educators with the opportunity to enact enquiry-oriented pedagogies, where students are encouraged to use their classrooms as learning sites, and make enquiries into their own practice. As Cochran-Smith and Lytle (1999, 2009) argue, 'inquiry as stance' should be conceptualised as a way of thinking or a 'habit of mind'. It should not be reduced to a strategy or technical model. Through interacting and engaging online around issues that are aligned to their own practice, students enact 'inquiry as stance'. More importantly, students can recognise the value in this process, particularly in synchronous interactions where students are actively engaging together. This process allows students to make their 'practice public' (Shulman, 2005), which is fundamentally important in their own development as teachers.

8.3.2. Principle Two

The design of online learning experiences within teacher education requires a conceptual framework, underpinned by research in the teacher education and online learning field, and where roles, outcomes and pedagogical approaches are visible to all participants

The plethora of literature in the online arena has provided educators with a strong theoretical base when designing online learning experiences (Birochi & Pozzebon, 2011) and online learning in teacher education (Clarke, 2009; Dabner et al., 2012; McLoughlin et al., 2007). A reductionist didactic transmitted approach towards online learning can have limited value, and can lead participants to question the value of the experience (Palloff & Pratt, 2002). Online learning can be met with scepticism and doubt, and this emerged within my own study. Therefore, it is imperative than an experience is carefully designed where students are emerged in a learner-centred environment, that is planned around their learning needs. The CoI

framework provides a strong theoretical and practical model for the design and facilitation of online learning that places the learner at the centre of this experience (Garrison et al., 2010). Aforementioned, the appropriateness of this model is further supported with the similarities it shares with teacher education (e.g. Korthagen, 2001c, 2014), and hence, the model espouses enquiry and collaborative dialogic reflection.

Alongside the research developments in the online and teacher education field, it is important that a design roadmap continues to be developed and revised, in light of research developments and in line with the stage of the development where the student teacher is at. The design of the roadmap should clearly articulate the intended learning outcomes and present an approach to how the sessions should be structured. These may be indicative in nature but the visibility of these to all participants, primarily the tutors and students, can ensure that the learning is maximised during the online engagement. Furthermore, the students can recognise the potential benefits and value when engaging in this process. It is important, however, that the sessions do not become overloaded and that appropriate time is provided for students to gather, share, and build on the ideas that have been discussed in the sessions. A recurring critique from the participants was the time limitations of the synchronous session. As noted, students felt that the sessions could have a longer duration, as the conversations were sometimes cut short due to time and the planned duration. Finally, it is important that opportunities are provided where tutors and students can familiarise themselves with the overcall online learning environment, prior to engaging in the core learning tasks. Technological issues can be addressed and arrangements should be put in place to support this learning.

8.3.3. Principle Three

A partnership dimension should be central to the experience where HEI tutors, cooperating teachers, and student teachers are working in a collaborative space

HEI tutors and cooperating teachers working in tandem online should continue to be part of the process. This study highlighted the valuable inputs that the cooperating teachers made (as online tutors) to student teachers' professional learning. This study emphasises the important role that cooperating teachers bring to teacher education (Feiman-Nemser, 1998). Although the students perceived the roles of the HEI tutor and cooperating teachers in LÍNTE as somewhat different, the environment provided a visible context where teachers and HEI tutors were working the dialectic. Furthermore, it provides opportunities for professional development for both HEI tutors and cooperating teachers. Through interacting with cooperating teachers and working in partnership, this experience allows for a professional collaborative and working relationship to develop. The emphasis on the shared design of LÍNTE, captured in the professional development sessions, allowed the research and practice to be informed and guided by cooperating teachers, who were regularly working with students in classrooms The two cooperating teachers who participated in this study, had expertise in mentoring and supporting student teachers and newly qualified teachers, and furthermore, engaged in a professional development project around working with student teachers (Martin, 2011; Ní Áingléis, 2009). It is important that the cooperating teachers have experience in working with students, and that they are familiar with the challenges and issues that students encounter on placement. Empathy and encouragement were paramount in this intervention, and therefore, it is important that cooperating teachers have an appreciation and knowledge of such challenges.

Furthermore, they should have the expertise and experience to provide feedback that is supportive and constructive in nature.

8.3.4. Principle Four

The LÍNTE experience should value a learner-centred experience and encourage students to be active agents and self-regulated in their own learning

The design of such experiences should continue to privilege an epistemology which sees learning as constructed and dynamic, rather than static and transmitted. Collaborative constructivist learning was central to this process where students were afforded opportunities to engage in individual and shared reflection and enquiry, which was facilitated through a cyclical iterative process. The effectiveness of the open-ended questions provides the sessions with a structure, and furthermore, allowed students to become self-regulated in their learning and take active agency in selecting issues that they felt were appropriate to their own learning. For future developments, open-ended questioning should continue to drive the discussions. The emphasis should remain to be placed on student-centred and student-led discussions, where the online tutors listen, provide guidance and feedback, and encourage and affirm students as they contribute to and engage in the discussions. The opportunity to allow students to address issues and concerns that are learner-centred provides the generation of knowledge of practice, through using their classrooms as sites for enquiry. Withstanding the recommendations from students, the frequency and duration of the synchronous sessions merits review. As alluded to previously, student teacher participants in this study frequently noted that the discussions in the synchronous space were cut short due to the duration of the sessions. To provide opportunities where students can actively engage, and furthermore, have the space to record ideas, it is recommended that the duration of the sessions might be extended or that there is

a time-gap between the sessions for the students, so that participants record points. The use of a 'whiteboard' in Adobe Connect could be further utilised in summarising the key points that the students could use.

8.3.5. Principle Five

The support dimension should remain at the forefront of this experience

The core element of designing online learning experiences should be centred around supporting student teachers who encounter challenges while engaging in the school placement experience. This research study highlighted how problems of the apprenticeship of observation, the complexity in teaching, and the problem in enacting coursework learning into practice featured in the issues that students brought to LÍNTE. Furthermore, this study illuminated the inter-relationship between the challenges; for students who encountered challenges, such as limited resources, challenging behaviours in their classrooms, or a culture in schools that challenged the approaches and practice that is endorsed in their coursework, students had to be encouraged and affirmed to persist with such practices, as opposed to 'washing out' learning (Zeichner & Tabachnick, 1981) and reverting back to traditional approaches, characterised by their own apprenticeship of observation (Sugrue, 1997). Through affirmation, empathy and support, students should be encouraged to engage and address such problems by displaying metacognitive awareness and developing adaptive expertise (Lin et al., 2007). Therefore, students should be equipped to address problems and complexities with flexibility and be responsive to the needs of the children in their classrooms. The cultivation of a safe space should remain to be paramount. For students to share and deprivatise their practice, it is important that conditions and actions are addressed, otherwise this learning experience may be met with tension and apprehension (Korthagen, 2001c, 2001d). Tutors should remain to

have expertise and an understanding of the perennial challenges that students encounter in practice. Furthermore, empathy, understanding and affirmation are essential. The use of questions that are open-ended in nature are also important to allow students to raise issues that they encounter in their own context. The use of questioning that are prescriptive or restrictive in nature may negate the experience, and students may not actively engage.

8.4. Research Contributions

This study has highlighted the importance of the contributions that hybrid spaces make to student teachers' learning during school placement. The development of a hybrid space where student teachers have access to help and support from peers and tutors was at the centre of this experience. This research does not challenge the emphasis on school-based mentoring and support. It sets out to build on this and create a further layer of support whereby students have access to guidance and support outside their classrooms. Although there was distance between tutors and students and tutors had limited knowledge of students' school and class contexts, this in fact enabled the creation of a safe space for students to discuss the challenges and issues that emerge in practice.

Beyond a space to support student teachers during the school placement experience, this study has also illustrated that the development of hybrid spaces in learning to teach can enable teacher educators to enact appropriate and meaningful pedagogies to develop student teachers' professional learning. In this research, student teachers were encouraged to describe positive elements of their practice and elements of their practice that were challenging. In doing so, student teachers were making their practice public to their peers and tutors in a hybrid space. Alongside making practice public, student teachers engaged in dialogic reflection and enquiry by

addressing problems and challenges in their practice, with the intent of improving and altering practice.

This study highlights that the development of online hybrid spaces can provide all student teachers with the opportunity to engage collaboratively during the school placement experience. The availability of virtual learning environments can provide an appropriate platform to facilitate such hybrid spaces. More importantly, this study draws on key pedagogical approaches in online and teacher education pedagogy and a framework for the facilitation of online hybrid spaces relating to learning to teach is proffered.

Although this research focused on initial teacher education, the approach that was fostered in this online experience has potential to enhance and guide online learning across the continuum of teacher education. For example, communities could be established which focus on specific subject areas, on matters pertaining to special and inclusive education, or on leadership practices for newly appointed principals. The framing of the questions and the presence of a tutor to affirm and encourage participants is recommended, as this person can provide guidance and structure to the overall experience. With the increased emphasis on collaborative practice in policy (DES, 2016), early immersion of students in collaborative learning, where practice is made public, where students work in enquiry- and reflective-oriented communities, and where students engage in critical dialogue, should feature in ITE programme.

In terms of contribution to practice, this online experience has been facilitated using existing resources and has developed student teachers' learning further. However, there are resourcing demands. The sustainability of facilitating (online) hybrid spaces in teacher education should be prioritised by higher education institutes, particularly when students value this learning. Zeichner (2010) cautions that the

demands associated with such hybrid spaces can challenge the traditional epistemological practices of universities. Therefore, issues around staff buy-in should be carefully mapped out and such work in hybrid spaces should be captured and valued in the workload of HEI tutors, as it can be extremely important in students' professional learning, as noted in this study. Similarly, cooperating teachers who seek to work in such spaces as tutors, should be afforded opportunities to engage in professional development for this role and this should be valued and recognised. With the consultative process that is ongoing around Cosán (2016-2020), this has the potential to capture such professional learning and contribution to teacher education (as online tutors supporting student teachers).

8.5. Implications and Considerations for Future Research

- Given that the student teacher participants, and furthermore, the tutors, welcomed LÍNTE and recognised its value as part of the overall school placement experience, it is worth considering extending this experience to the undergraduate programme, the Bachelor of Education (BEd programme), in my own HEI. There is, however, a need to address the implications for moving this on to the BEd programme, which is a larger programme in nature;
- With the emphasis on school-based mentoring in the induction phase of teacher education (Teaching Council, 2016a), an online community like LÍNTE could provide a further layer of support and guidance. This could allow NQTs to collaborate collectively, and generate knowledge of practice in an online space. It may also provide a forum for a student to raise an issue or question, that he or she may not feel comfortable in sharing with the school-based mentor. Drawing on the findings in this research study, certain students who had a positive professional relationship with their teachers, and were mentored and supported

regularly, commented that there were certain questions or issues that they did not feel were appropriate to raise with the cooperating teachers. In addition to this, the availability of a facility like LÍNTE, will provide opportunities for students to value the recognition of working as part of communities (in communities of practice, inquiry communities etc.) and will continue to emphasise the importance and the value of learning from making practice public (Shulman, 2005) and deprivatising classrooms (Fullan, 2008);

- The possibilities of introducing the LÍNTE experience at earlier stages in the initial teacher education could also provide an appropriate context to critically explore the influences of student teachers' lay theories and hegemonic beliefs. This can provide an appropriate context where student teachers and teacher educators will not just acknowledge these lay theories but can challenge and conform traditionalist lay theories that may challenge student teachers' learning and practice. The design of a learning experience that is closely aligned with classrooms, can provide such opportunities and this can be facilitated in an online space;
- The importance of reflective practice and its contribution to professional learning merits further research. This study has highlighted that students perceived independent written reflection as isolating and limiting in terms of their professional learning. Students welcomed collaborative and reflective dialogue. McGarr and McCormack (2014) note that the model of school placement written reflections, a requirement of many ITE providers, is limited in terms of developing critical reflection, particularly around challenging existing assumptions and beliefs. To develop students' capacity to engage in critical reflection, the design of dialogic reflective experiences may be more

beneficial. The presence of a teacher educator can help scaffold the student, and as the student progresses, he or she can develop the capacity to become critically reflective in writing. Arising from this, there are significant research opportunities to be gleaned from this and the timeliness of this is important, with the development and review of school placement in Ireland;

- Finally, this research has flagged limitations in the newly developed model of school placement. The lack of a formalised partnership between schools and universities presented challenges for students, particularly around access to school-based mentoring and support. Strategic planning and research should focus on developing a partnership model that is workable and sustainable for HEIs and schools.

8.6. Closing Remarks

This study has offered valuable insights into the design and facilitation of online learning experiences that are closely aligned with the school placement experience. However, as discussed in Chapter Five, this study focused on a cohort of students in a higher education institute that specialised in primary initial teacher education provision. Furthermore, LÍNTE was facilitated during a six-week school placement, and data was gathered during the intervention (observation) and after the intervention (discourse analysis and interviews). Due to institutional barriers, it was not possible to extend this further. Furthermore, the nature of the methodological approach and design was qualitative in nature, and thus, the findings and interpretations may not be representative of all student teachers who participated in the LÍNTE experience. As alluded to in Chapter Five, I was not involved in the supervision/assessment element with this cohort. If I had been involved in evaluation of the student teachers, the student teachers' experience and findings may have been different. McGarr and

McCormack (2014) also note this challenge where students can tend to reflect to their audience, particularly if the reflective element falls under the evaluation/assessment umbrella.

On a personal level, I was excited and initially apprehensive in undertaking doctoral research. I knew that obstacles and challenges would emerge, at research and at institutional level. The timing of the research was also a challenging factor. When I embarked on this study in 2013, the PME programme (which LÍNTE was focused on) had not yet been accredited, and the four-year BEd programme was still in its infancy. Therefore, the demands of enacting a new and extended model of school placement, alongside conducting doctoral research, was challenging. Although, I always had an interest in digital learning and ICT, the transition into online learning and teaching in higher education was also a new development. However, as I embarked on this research journey, I found this to be an enriching and invigorating experience. Initially, I was driven by the question: How can I set up an online support system that can help student teachers on school placement? Beyond setting out to address and design an experience to address this problem, I soon became aware that challenges were emerging in initial teacher education provision, stemming from the implementation of the ITE policy directives (Teaching Council, 2011b, 2013a). I soon began to see importance and value in my research, and how this research might lend itself and support others in the field. This research study also identified challenges in the revised model of school placement (Teaching Council, 2011b, 2013a). Withstanding such challenges around policy implementation and the lacuna in the reconceptualised model of school placement, exciting and challenging times lie ahead for researchers in initial teacher education, particularly around improving and enhancing the school placement experience. One can argue that there are no immediate solutions or quick-

fix ideas to remedy the complexities that policy implementation brings. LÍNTE was not a solution. It attempted to address a gap, and set out to bring innovation to the area of school placement. It illustrated the importance of research in the design and development of initiatives to help and support students in schools. I hope that this experience has supported the student teacher participants to (a) recognise the importance and value of sharing practice and engaging in critical dialogue when on school placement and when working in schools, (b) remain open to learning, and (c) bring this experience with them when working with prospective student teachers in the future.

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APPENDICES