

Action, Change, and Co-teaching: Professional Relationships and Professional Learning during the Induction of Newly Qualified Teachers.

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Declaration

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Doctorate of Education is entirely my own work, and that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

Signed:

A handwritten signature in black ink, appearing to read 'E. C. Conduitt', is written on a light blue rectangular background.

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Dedication

Do mo mhac álainn, Darach, mo chuile rud.

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Glossary of Terms and Acronyms

AR: Action Research

Associate: a practising and fully registered teacher who is also an experienced mentor and/or induction workshop facilitator, nominated by the National Induction Programme for Teachers to support the *Droichead* process in *Droichead* schools.

ASTI: Association of Secondary Teachers, Ireland

CAR: Collaborative Action Research

CEPP: Career Entry Professional Programme

Co-teaching: two or more teachers teaching together in one physical space, sharing responsibility for meeting the learning needs of students and, at the same time, learning from each other.

DEIS: Delivering Equality of Opportunity in Schools (Department of Education and Skills policy instrument to address educational disadvantage)

DES: Department of Education and Skills

Droichead: a period of supported professional practice for the purposes of induction. A new model of induction being piloted in some schools. Following satisfactory completion of the *Droichead* process, newly qualified teachers are confirmed themselves and with fellow professionals as having engaged with process and the Teaching Council will remove the condition from their registration. Defined by the Teaching Council as “an integrated induction framework which is based on a

whole school approach in supporting newly qualified teachers' professional learning" (2018, p.1).

EAL: English as an Additional Language

ICTU: Irish Congress of Trade Unions

Induction: a programme to offer systematic professional and personal support to newly qualified teachers.

Inspectorate: body of Department of Education and Skills inspectors.

INTO: Irish National Teachers' Organisation

ITE: Initial Teacher Education

Mentor: an experienced teacher who supports the professional learning of a newly qualified teacher and facilitates his or her induction into the school and the profession, in collaboration with colleagues. He or she has completed Initial Mentor Training with National Induction Programme for Teachers.

NCSE: National Council for Special Education

NIPT: National Induction Programme for Teachers

NPPTI: National Pilot Programme for Teacher Induction

NQT: Newly Qualified Teacher

OCED: Organisation for Economic Co-operation and Development

PDST: Professional Development Service for Teachers

PIPCTP: Procedures for Induction and Procedures and Criteria for Probation 2013/2014

Probation: completed when a newly qualified teacher has demonstrated to the Inspectorate that he or she has met certain post-qualification criteria.

PST: Professional Support Team is a team of experienced and fully registered teachers, including a mentor, who work collaboratively to support the newly qualified teacher during the *Droichead* process.

Teacher Education Continuum: both formal and informal educational and developmental activities for teachers, as lifelong learners, during their teaching career. It includes initial teacher education, induction and continuous professional development.

Abstract

The induction stage of teacher education in Ireland is currently at a major turning point. In 2013, the Teaching Council embarked on piloting a new form of induction and probation of teachers known as *Droichead* (Teaching Council, 2013a); this involved practising, experienced teachers mentoring and supporting newly qualified teachers (NQTs) during induction. It also involved mentors and principal teachers in the assessment of NQT progress; the assessment role was traditionally the remit of the Inspectorate as probationary work with NQTs. For various reasons, this departure has been met with opposition from within the profession and from teacher unions. A central focus of my research is an exploration of co-teaching as a pedagogy, as used by mentors and NQTs during the induction process. This research was conducted in a range of schools: DEIS, urban, rural, *Droichead* pilot schools, and special schools. Collaborative action research (CAR) engaged the participants in co-teaching lessons and professional development meetings. Collaborative practices were developed and fostered in schools and across school settings in communities of practice, which affected participants' professional learning. The findings suggest that tensions, which NQTs and mentors face whilst establishing a professional relationship, were dealt with during reflections on practice and participation in co-teaching. Sharing of professional responsibility and collaboration, whilst still fostering the needs of teacher education at induction level, also added to the continuing professional learning of mentors. These areas are represented in the model for the development of professional learning and professional relationships through co-teaching with CAR, which was designed in this study. The model developed here created a space where professional learning was developed in conjunction with professional relationships. This model moved away from the traditional models of induction and, instead, embraced innovation in teacher education in an Irish context.

Chapter One: Introduction

Chapter Organisation

The area of induction for newly qualified teachers (NQTs) is in the process of being revised in Ireland. The opportunity to examine, reflect, and research the possibility of using co-teaching within the induction phase for the development of teacher learning and professional relationships has been deliberated by the research questions and the research design here. This chapter will briefly outline the area of interest the study pertains to and the focus of the study. It will introduce the background to the research problem, along with the purpose of the study, research questions, and research design. Assumptions, limitations, and the scope of the study will also be discussed, along with the implications of the study. Finally, an overview of the study will be presented.

Area of Research and Focus of the Study

The study was situated in the field of teacher education, more specifically in the area of teacher induction. Teacher induction is defined here as a programme to offer systematic professional and personal support to NQTs. The transition from the support and dependence of preservice teaching experiences to sole responsibility (Le Maistre & Pare, 2010) for teaching and learning as an NQT can cause significant stress and is described by Veenman (1984) as praxis shock. The task of teaching and learning to teach is a period characterised by Feiman-Nemser (2012) as “a time of intense learning” and “intense loneliness” (p. 10). Several challenges have been identified, in international research, for the NQT as they begin to teach; “classroom discipline, motivating students, dealing with individual differences, assessing students’ work, relationships with parents, organization of class work, insufficient and/or inadequate teaching materials and supplies, and dealing

with problems of individual students” (Veenman, 1984, p. 143). Ingersoll and Strong (2012) highlight in their research that high attrition rates of the teaching profession amongst NQTs is an issue in several countries. They further their concern that this high attrition rate leads to a shortage of qualified teachers and impacts directly on student learning and student achievement (Ingersoll & Strong, 2012). Caspersen and Raaen (2014) report that these challenges can be overcome when resources are made available to teachers within their school context. This study will consider the impact of these challenges but also the implications of resources made available within the school context during the induction of NQTs in an Irish context. Although, traditionally attrition has not been an issue in the Irish context, it is one which is becoming a major issue to teacher supply (Burton, 2016).

The area of teacher induction is undergoing change in the Irish context currently and has been in flux for almost a decade. The current proposed changes, which will be outlined in the next section, and discussed at length in the literature review, could have significant impact upon the roles of teaching colleagues in the primary school setting. The process by which NQTs are inducted into the profession are poised to change significantly, from a process of external evaluation and internal support, to internal support and continuing professional learning. There were also policy changes within school placement during ITE which will alter the structure and roles of novice and experienced teachers. These changes to the novice teacher and experienced teacher learning relationship pave the way for the timeliness of exploration of induction professional relationships and professional development in this study. The study focusses on the impact co-teaching could have on a mentor and NQT as they undertake the process of induction. It will also seek to inquire into the impact of co-teaching upon the professional relationship between a mentor and NQT.

The Research Problem

A number of research problems have been identified here within the context of induction for primary school teachers in Ireland. The imminent change of the model of induction, and probation to induction, as a process of continuing professional development and support, brings with it the issue of the role of teacher educator, at induction level. The role of teacher educator will be formally in the hands of the professional support teams (PST), which must include mentors, in schools.

Although the process of induction only became a formally recognised and nationally delivered part of the teacher education continuum in 2011 (Teaching Council, 2011), the process of external probation for NQTs has been a part of Irish teacher education for a great many years, predating the foundation of the State (Coolahan, 2004). The model of an external evaluation from a DES Inspector during a two year period, which was later reduced to one year, is noted by Coolahan (2005) in his history of Irish education. The process of probation for NQTs as the traditional model of induction into the teaching profession was specific only to primary level teachers. There was no such requirement for NQTs at post-primary level. Although, the move “towards an all-graduate teaching profession” (Coolahan, 2013, p.13) in both primary and post-primary had begun in the 1970s, the onus to meet the requirement of probation following ITE was solely on primary NQTs. The process of externally monitoring graduates from colleges of education, in the guise of probation, came with the introduction of pilot mentoring programmes for induction almost a century later. The calls for continuing of teacher education beyond initial teacher education (ITE) saw a quickening of pace and importance, in terms of creating and establishing policies and practices around the idea of a teacher education continuum in the 1990s. The early part of this decade saw influential reports from both national and international sources. In 1991, an OECD report on Irish education strongly

recommended, “creating a framework in which the elements of induction and in-service play a role at least as vital as that of initial training” (OECD, 1991, p. 92). The report regarded induction, “as an essential component of policy for maintaining quality of school and teachers” (OECD, 1991, p. 101) and that it should be formalised as a distinct stage of teachers’ education. The Green Paper favoured the creation of a “properly structured induction” (Department of Education, 1992, p. 165) phase of teacher education. The National Education Conference (Coolahan, 1994) commented on the need for a process of induction, whereby a NQT is supported by experienced teachers and experiences a continuum of learning, and not a career based on the skills and knowledge imparted at initial teacher education alone; again, echoing the sentiments of the reports and papers before it.

In 2002, the then National Pilot Programme for Teacher Induction (NPPTI) began to train practising, experienced teachers as mentors to support the NQTs (Department of Education and Science, 2006; Kellaghan, 2009). The formalised policies and procedures from the Teaching Council (2011) on the continuum of teacher education and the beginning of consultations on how the Teaching Council might change the traditional model for induction and probation presented new opportunities and challenges in the induction level of teacher education.

The “Policy on the Continuum of Teacher Education” (Teaching Council, 2011) outlined that the continuum of teacher education has “traditionally been referred to internationally as the ‘three ‘I’s’ of initial teacher education, induction and in-career development. The Council is adopting another set of ‘three ‘I’s’, namely, innovation, integration and improvement, which should underpin all stages of the continuum” (p. 8). As described above the formation of a continuum for structuring career-long learning was debated over many decades. The policy published by the Teaching Council (2011) gave

greater scope to explore the ways in which each phase of the continuum could integrate with the others and to use the continuum, not only as a structure for passing through teacher education, but also as an opportunity to innovate, investigate and engage with teacher education in new ways at each and all phases of the continuum. The policy also underpins the significance of induction as a discrete phase of teacher education, highlighting that “it builds on the experience of initial teacher education and lays the foundation for subsequent professional and personal growth and development [... and] is a particularly significant phase in building a seamless continuum of teacher education” (Teaching Council, 2011, p. 16). The definitions and ideas presented in this policy gave rise to the need and opportunity to focus this study on this phase of teacher education in the first instance.

The traditional model of the teacher induction phase of teacher education had two elements: induction in schools, as formalised and delivered through training by the National Induction Programme for Teachers (NIPT), and probation, fulfilled by the Inspectorate of the Department of Education and Skills (DES). A consultation process for this change to the traditional model created many issues and challenges, as did the proposed models arising from them, which will be discussed in detail in the literature review. In early 2017, a revised policy was published, which removed the need for probation from the induction phase of teacher education and from the requirements for full registration with the Teaching Council (Teaching Council, 2017). These changes marked a large shift in the way in which teachers have entered into the profession since the formation of the State and again gave rise to the opportunity for the focus of this study on this phase of teacher education.

An issue specifically identified here focusses on the “induction activities” (Teaching Council, 2014a, p. 13) and guidelines on professional portfolios being given to

PSTs in schools, as part of the pilot model for induction, *Droichead* (meaning bridge in Irish). There has been no mention of engaging NQTs in the induction level of teacher education with pedagogy; rather they have been offered ‘activities’. Shulman (2005a) highlights the importance of engaging learners with pedagogies that promote greater accountability towards themselves, their teacher, and their fellow students, which ultimately leads to “a much higher affective level” (para. 15) in a learning environment.

The importance of having a successful induction programme as part of the teacher education continuum was highlighted also by the Teaching Council as “a particularly significant phase in building a seamless continuum of teacher education” (Teaching Council, 2011, p. 16). They defined the process as “systematic professional and personal support to the newly qualified teacher” (Teaching Council, 2011, p. 16) at the beginning of their teaching career, usually the first year following the completion of ITE. The policy also outlined the importance of continued professional development for experienced teachers and indicated that “new models of provision need to be developed to assist teachers to develop and broaden the professional knowledge, skill, and competences appropriate to their teaching” (Teaching Council, 2011, p. 8). Both induction and continuing professional development should be based on an enquiry-oriented stance, as envisaged by the Teaching Council (2011). An aim of the research here was to focus an enquiry on relating to and including both induction and continuing professional development. The Teaching Council stated, “collaborative teacher learning is considered to be the most important aspect of successful, positive CPD [continuing professional development].” (Teaching Council, 2014b, p. 12). They continue by describing that teachers value the support and sharing of learning they receive from other colleagues whilst working together.

Purpose of the Study and Research Design

Purpose of the Study and Research Questions.

It was identified from the issues outlined above, and which will be detailed in the literature review, that the provision of a new model of induction in the Irish context could incorporate teacher education pedagogies and not, solely, induction activities.

Additionally, the impact of the implementation of a process of induction such as *Droichead* on the professional relationships amongst colleagues is of interest within the scope of the study. Co-teaching was chosen as a practice which, having effective professional relationships and reflective practice as core elements, might be implemented as part of the induction process. The literature review here presents how co-teaching can be deemed a pedagogy of teacher education. Although there is much literature on co-teaching in other areas of teacher education, there is a dearth of research on the use of co-teaching at induction level, which created a gap in the research. The research problems identified, coupled with the dearth of literature of co-teaching at the induction level of teacher education, have influenced the composition of the research question and the secondary question, which are outlined below.

Primary Research Question:

How does co-teaching in induction impact on newly qualified teachers and their mentors?

Secondary Research Question:

How does co-teaching influence the mentor – newly qualified teacher relationship?

The visualisation of the relationship between the research question, the secondary research question, and the aims of the research are illustrated in Figure 1 below. Elements of the figure will be presented in the literature review chapter and also as part of the conceptual framework for the study. The conceptual framework and the research questions were influenced by the literature.

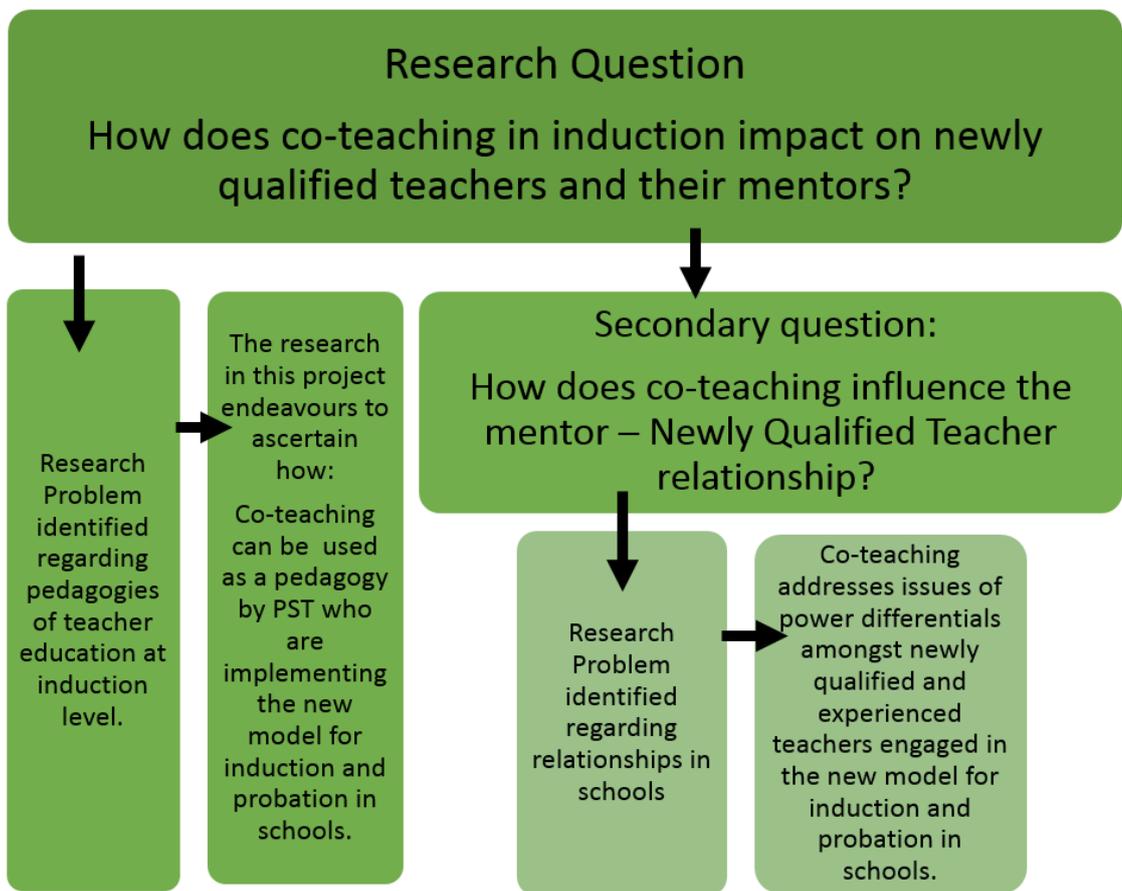


Figure 1. Research Questions and Links to Research Problems.

Research Design.

This qualitative study drew on the theoretical perspectives of critical inquiry. The research was concerned with issues of agency of teachers in their professional relationships and in teacher education in schools. The study sought new ways of understanding such professional relationships and to “take effective action for change” (Crotty, 1998, p. 157). With this in mind, a methodology to suit a critical inquiry perspective, and because of the nature of *Droichead* as a “pilot [to] capture examples of good practice” (Teaching Council, 2014a, p. 9), collaborative action research (CAR) was chosen in the design of the study. CAR is defined here as the process of action research that includes the participation of practitioners as researchers who reflect, discuss, change, and act on change with the traditional cycles of action research, but with the addition of an external collaborator who facilitates and scaffolds the reflection, discussion and changes within the cycles of CAR. CAR, as a type of action research, can serve to examine and reflect upon practices and suggest improvements that may influence decision making or practices (Cohen, Manion & Morrison, 2011). The study suggested co-teaching as a way to overcome the imbalance of agency amongst teachers within the induction process and use it as a pedagogy of teacher education. Thus, the research design, using CAR, focused on “technical and practical improvement and the participants’ better understanding, along with [...] changing the system itself” (Zubre-Skerritt, 1996, p. 5).

The sample was a non-probability purposive “sample ‘hand-picked’ for the research” (Denscombe, 2003, p. 15). Mentors, who are affiliated with the Mentor Professional Networks at the Education Centre in Meath, were ‘hand-picked’ research participants. Additionally, schools with NQTs participating in their induction process and with NIPT trained mentors, who did not attend Mentor Professional Networks, were also

contacted. In addition, to encourage participation and volunteers, the researcher proposed the study to members of the NIPT through professional acquaintances.

In line with the stages of CAR, data was collected using interviews initially to ascertain the context and situation, and to identify and evaluate the problem or need to introduce innovation in a teaching situation (Cohen et al., 2011, p. 354). Observations and participant reflective journals were used concurrently with CAR action planning, while the reflection field notes of the researcher collected detailed data from the participants. Final critical reflections in the reflective journals and final semi-structured interviews were also used, on completion of the CAR cycles, to gather data on the impact of completion of the study on the participants.

Melrose (2001) suggests two distinct ways of maximising quality assurance in action research; repetition of the cycle of action research and “reputation and constancy” (p. 167) of the research group. In addition to these, member checking, also known as informant feedback or respondent validation, used by researchers to help improve validity and trustworthiness, also afforded participants an opportunity to verify their input. The cycles of CAR happened across several schools and aided in the triangulation of results, which added to the quality assurance of the research study. A data analysis audit trail was also produced and computer aided data analysis software facilitated this process.

All of these above elements of the study will be reported in detail in the methodology chapter. A review of the design and data collection tools will be given, as well as a presentation of other issues, such as ethical consideration and piloting.

Assumptions, Limitations and Scope

Assumptions of the Study.

It was assumed that participants answered, and responded, truthfully and accurately, to the semi-structured interview schedule questions and topics, to the topics and questions in the reflective journals based on their personal experience, and to the reflection and discussion topics at CAR cycle meetings. It was also assumed that the participants had responded honestly, and to the best of their individual abilities, throughout the CAR cycles in all data collection tools.

Limitations and Scope of the Study.

Researcher biases and perceptual misrepresentations are potential limitations in any qualitative study; however, every effort was made to address these through quality assurance processes, such as member checking, research audit trail, and multiple tool and multiple data collection sites. Evident limitations of the study included the small scale of the research and the limited number of participants. The study was kept at a small scale so as to be a feasible, manageable and realistic data set for the researcher.

The scope of the study extended to four primary schools: one DEIS, urban, junior school; one rural, small school; one special school; and one urban, single sex school participating in the *Droichead* pilot. There were NIPT trained mentors in three of the four schools. Two of the mentors had only one NQT each, whilst the third had three NQTs. The fourth school had no NIPT trained mentor but operated induction of NQTs with a buddy system between two NQTs. In all, there were ten participants. The schools were all from the geographical area serviced by the Education Centre located in Meath, a largely commuter area, with large urban centres and significant rural areas also. The variation in

the school types could be considered a strength of the study, in terms of its application to other settings.

Delimitations imposed on the research design by the researcher included the specific Education Centre; this was in easiest reach of the researcher and with which the researcher was affiliated. Another delimitation was the number of schools; this was restricted when one school presented with three NQTs and a mentor so that the data collected from all participants could feasibly be dealt with by the researcher. A final delimitation set by the researcher was the number of repetition of cycles of CAR; this was dictated to fit within the academic year, to best reflect the induction journey of the participants, which generally takes one academic year.

Significance of the Study

This study hoped to contribute to the field of professional development of primary teachers, in terms of their continuum of education and their professional relationships. It aimed to explore the way in which co-teaching could be used as a pedagogy of teacher education within a school setting. It sought to explore how this might encourage professional learning at the induction level of the continuum of education for NQTs or continued professional development for experienced teachers as mentors. The reflective practices of the participants were fostered throughout this process of co-teaching within induction, through models of co-teaching and the implementation of the study via CAR. The educational significance of this study lies with its potential to have positive impacts on colleagues at various points on the continuum of teacher education and on professional relationships at school level. This study provided the researcher and the participants with an opportunity to engage with CAR to enhance the professional learning of mentors and NQTs, capture the creative responses to challenges and issues facing mentors and NQTs,

and facilitate the building and developing of professional relationships in an innovative way through the combination of co-teaching with CAR. This study also gave the participants greater agency over their professional learning and professional relationships through the collaborations and shared responsibilities of co-teaching with CAR model, and fostered within a community of practice a sense to use the knowledge, skills, and practices attained in other elements of their professional learning and professional relationships. It provided them with the fora to reflect upon their teaching and learning, the way in which they reflect on their practices and on how to empower their voice in an effective way when dealing with colleagues. These elements form a promising research basis for further contributions to the changing model of induction and the professional relationships affected by this in an Irish primary context.

This study contributes to the understanding of professional development, professional learning, and a professional relationship support model for NQTs and experienced teachers during the induction process. The findings and recommendations of this study will add to the existing research on co-teaching at induction level and will contribute to the national policy context for the induction of teachers.

Overview of study

Following this chapter, Chapter Two deals with the literature review. It provides the reader with the origin, policy, and influences on teacher induction in the Irish context and how these matters are relevant to the research. It explores and defines co-teaching, as well as outlining each of the models of co-teaching, along with the challenges, benefits, and limitations, as will be pertinent to the findings chapter, and to the application of these models of co-teaching within induction. Finally, the chapter will then consider professional development, signature pedagogies for professional learning, and teacher self-efficacy,

including the implications these have on teacher professional learning and engagement with professional learning.

Chapter Three is centred on the methodology and research design of the study. It reiterates the research questions for the reader, before outlining the theoretical perspective of critical inquiry of this study. The use of CAR within the research design, and as a method of professional development, fits with the perspective of critical inquiry. The research design was influenced by this perspective but also by the process of induction at school level, which, in turn, influenced the amount of data, the type of data, the participants, and the timeframe considered in the research design. The action research was carried out by the participants but was initiated, facilitated, and supported by the researcher. It was also used as a modus to deliver the professional development to the participants and so CAR was chosen to encompass all of these facets of the research design and the rationale for employing it as a methodological approach and as a tool within the process. A conceptual framework will be presented following Maxwell's (2005) four sources for the construction of a conceptual framework. The construction of the framework, which synthesises the literature with the researcher's own experiential knowledge, pilot and exploratory research, and thought experiments, will be presented for the reader in text format and, then, graphically. The discussions on quality assurances to data collection, as well as the ethical considerations of the study, are then examined. A portrayal of the sampling and the context of the research, including the role of the researcher within the sampling of the participants, follows. The chapter also analyses the key features of the data collection tools implemented: semi-structured interviews, researcher observations of co-teaching, participant reflective journals, and field notes of CAR meetings. It concludes with a discussion on data analysis procedures for the data collected.

Chapter Four presents the findings from the data analysis and their links to the literature. The findings are presented in light of the model of professional learning and professional relationship building. The model is presented and the findings are presented in relation to elements of the model and the component parts of a community of practice; mutual engagement, joint enterprise, and shared repertoire (Wenger, 1998). These components are adapted into the model presented, which includes synthesising this with the methodological approach of CAR. The findings are presented from within the school-based community of practice and from the external community of practice, where all participants were present. Opportunities for individual professional learning for mentors, NQTs, and the researcher as an external collaborator are discussed; examining the practical application of co-teaching and CAR practices, knowledge, and skills, in relation to the participants' own practices. It considers the role of reflective practice and teacher self-efficacy in the data analysis. Finally, the professional development analysis framework (Kennedy, 2005) and attributes of teachers with high levels of self-efficacy presented in the literature review are reconsidered, in light of the findings, before a discussion, on how co-teaching with CAR was found to represent a signature pedagogy of teacher education, is presented.

Finally, Chapter Five presents the conclusions of the study and a review of the major findings of the study regarding the research questions. The strengths and limitations of this study are then addressed, followed by a consideration of the implications of this study and its recommendations for professional learning, professional relationships, and teacher induction. Recommendations for future research and suggestions for furthering this research are also presented.

Summary

This chapter began by describing the background to the research problem, before identifying a gap in the research, with the research problems themselves. It then outlined the research questions. The Irish context for teacher induction education, co-teaching as a pedagogy of teacher education, and professional relationships amongst mentors and NQTs, will all be addressed in the following literature review chapter. The literature will be explored, before synthesising the information in the conceptual framework that frames this study in the methodology chapter. The research design, issues of sampling, quality assurances, and data collection tools were briefly discussed in this chapter also. The study's assumptions, limitations, and scope were presented, before highlighting some of the implications of the study. As outlined in the overview, the next chapter will deal with the literature review.

Chapter Two: Literature Review

Chapter Organisation

As stated in the introduction, at its centre, research questions will focus on the impact of co-teaching on induction level teacher education and the professional relationship between mentors and NQTs. The literature review looks at four topics that converge on the research questions, namely:

1. Teacher induction in Ireland; the policy, the reform and the changes currently taking place within this area are discussed and significant influences are highlighted in the first section. This illustrates the context within which this study took place and notes the factors that may have some bearing, both on the participants of this study and the larger teaching body.
2. The topic of mentoring will then be explored, with particular reference to the mentor and NQT relationship, as this is an area of great importance to the focus of the research questions in this study.
3. Co-teaching will then be investigated, in terms of its origins and applications in educational settings. The agency in relationships in co-teaching and the ways that these could be addressed, as well as the major advantages to teacher learning and shared practices, will also be discussed in this section. Exploring all of these ideas within co-teaching will provide the researcher with a firm understanding of the potential and limitations of co-teaching, in applying it for the purposes of this research.
4. The fourth topic to be considered is the area of teacher professional learning. This section focuses on teacher learning following initial teacher education (ITE) input. The concepts of signature pedagogies for effective professional learning will be

examined. Professional learning for teachers following ITE usually happens within a model of professional development; these models and evaluations of such will be briefly explored, as this study implemented CAR as a model for teacher learning or teacher professional development. A brief context surrounding teacher professional learning will then be considered, as it impacts on the participants and on this researcher, in how teacher change is effected (Guskey, 2002).

The Dublin City University (DCU) search engine *Summon*, which has the capacity to search via multiple search engines was used to explore sources such as databases, peer-reviewed journals, reports and the DCU library catalogue. The four key themes above were explored, but also themes including professional identity; theory development for the concept of teacher agency and the role of teachers in teacher education at ITE level. Many of the themes were searched for in combination and Boolean operators were used to facilitate these search combinations. The data analysis software Nvivo was used to store a matrix of references, readings, reports and data bases relating to key themes.

Teacher Induction in Ireland - Origins and Influences

In September 2012, a section of the Teaching Council Act 2001 commenced, making the Teaching Council the statutory body responsible for “establishing procedures for the induction of new teachers and procedures and criteria for their probation including periods of probation” (Teaching Council, 2013c, p. 7). Following this, the Teaching Council published the document *Procedures for Induction and Procedures and Criteria for Probation 2013/2014* (PIPCP), which outlined the ways in which induction and probation of all NQTs would proceed. A part of these procedures was a pilot study, ‘*Droichead*’,

which aimed to guide NQTs through induction using a professional support team (PST), “who work collaboratively to support the newly qualified teacher during [...] his or her entry into both the school and the teaching profession” (Teaching Council, 2013c, p. 5). This differs from those who are not in the pilot project and engaged in the traditional model of induction and probation. NQTs, in the traditional model, are supported by a mentor in the school, if there is one in place, and probated following inspection by a member of the Department of Education and Skills’ (DES) inspectorate. For the most part, the process of induction and probation of NQTs in ‘non-pilot’ schools remains largely unchanged from previous years.

Droichead, however, invited schools, at primary and post primary level, in seven counties, to apply to participate in the pilot programme for a two year period. Following on from that, pilot research was undertaken and the “findings and recommendations of the research will inform the model that is ultimately approved by Council to be mainstreamed” (Teaching Council, 2013e, p. 30). This process of induction and probation being piloted by the Teaching Council establishes “a system that meets the highest standards, addresses the needs of both pupils and teachers and reflects the realities of the daily life of schools” (Teaching Council, 2013a, para. 5). Despite this policy being a very recent publication of the Teaching Council, it is not their first attempt at creating a policy on induction and probation, as will be explored in situating the policy in the national arena.

National Context.

The establishment of a Teaching Council was proposed many decades before the Teaching Council Act (2001), by the report of *An Chomhairle Mhúinteoireachta* in 1974. At this time, many positive changes were afoot in Irish education, with high levels of interest in educational study in Irish universities and the establishment of new educational programmes. Teacher education and professionalism were, however, “paid almost no

attention” (Coolahan, 2009, p. 4) to in the White Paper of 1980. It was not until the Green Paper in 1992, “Education for a Changing World”, that a recommendation was made to create a compulsory probationary year of part-time training and part-time teaching that “favoured the establishment of a teaching council” (Coolahan, 2009, p. 10). In 2000, the Minister for Education and Science discussed at a private members’ debate that “components of probation teacher education and qualifications, and standards of teaching” (Woods, 2001) would largely remain the responsibility of the Minister of Education and Science and the Teaching Council would be designated tasks within these responsibilities. In 2004, the Teacher Education Section was designated within the Department of Education and Science (Coolahan, 2013, p. 19) with broad responsibility for the teacher education remit dealing with matters of teacher education.

Since its establishment, the Teaching Council has endeavoured to create, define and implement a continuum of teacher education (Teaching Council, 2011). The ITE element of teacher education saw significant changes in policy development with a review of the duration and nature of ITE programmes (Teaching Council, 2011). Significantly, in the light of this study, school placement was altered and considerably extended (Teaching Council, 2013) during these policy changes. The extension of school placement and the development of collaborative and cooperative learning within the ITE policy area could have augmented the teacher professional development culture for NQTs having proceeded through this model of ITE.

The Teaching Council at this time also developed policy regarding the induction and probation of NQTs. In early 2012, the Teaching Council (2012a) launched a consultation process for the Career Entry Professional Programme (CEPP). It was envisaged by the Teaching Council that CEPP would “replace the current arrangements for the induction of newly qualified teachers and their probation” (Teaching Council, 2012b,

para. 1). This programme allowed for a step back to be taken by the DES inspectorate, who intended handing over the role of probating NQTs to the Teaching Council, that the Teaching Council “intended to replace the current separate induction and probation processes” (Ward, E. to T. Ó Ruairc, 1 September, 2012). Teachers, including principal teachers, mentors and NQTs, opposed several aspects of the programme during the consultation process. The Teaching Council acknowledged that “there [was] a notable reluctance on the part of principals” (Teaching Council, 2013e, p. 21) to partake in CEPP. The response from teacher representative bodies was, largely, negative. The Irish National Teachers’ Organisation (INTO) passed a motion at a public session of its Annual Congress in 2012, rejecting CEPP and urging its executive to “enter into immediate negotiations with the Teaching Council to prepare an alternative, amenable, workable document for consultation” (INTO, 2012, para. 9). The Association of Secondary Teachers Ireland (ASTI) added that the “current school system does not have the capacity to introduce CEPP” (ASTI, 2012, p. 12). Following this process, the Teaching Council then proposed and published the documents relating to *Droichead* in 2013.

Another important factor in the induction of NQTs in Ireland is the National Induction Programme for Teachers (NIPT), which operated, as the NPPTI pilot, for almost a decade. Now a national programme, the NIPT trains mentors to provide systematic support for NQTs during induction in schools, and provides induction workshops through the Education Centres’ network for NQTs. These workshops, once an optional support to induction, were made a compulsory part of induction and probation for registration with the Teaching Council in April 2013, where NQTs must attend a minimum of ten out of twelve workshops (Teaching Council, 2013b, para. 2), with other workshop attendance requirements applicable to those with a trained NIPT mentor or participating in the *Droichead* pilot model. As Conway, Murphy, Rath and Hall (2009) noted, “it is crucial that

induction is formally recognised as a key phase in learning to teach and that systematic support is put in place” (p. 175). Prior to the NIPT, some induction programmes were being run through some of the teacher education institutes (Kellaghan, 2009; Department of Education and Science, 2006). The NPPTI operated on a largely voluntary basis for a decade from St Patrick’s College, Drumcondra for primary teachers and University College Dublin for post-primary teachers. It was during this time that Sugrue (2002) commented that “there is an urgent need to pay greater attention in a coherent and systematic manner to the period of induction as an important and distinct learning phase in a teacher’s life and work” (p. 315).

With such flux in the policy and political space surrounding the induction phase of teacher education, it is noted in this study that this may have caused the impediment of policy development, and of resourcing and recognising the importance of this phase. This delay in meeting the teacher education policy expectations is noted in the next section, which examines the international influence on this policy trend.

Influence of International Policy Trends.

The international context trend towards systematic continuous teacher education and professional development had an impact on national policy and context. The Lisbon Treaty (European Union, 2000) endeavoured to make Europe an exemplary “knowledge economy”, pushing policy makers to create and innovate in education and economic growth. The impact and responsibility of being a member state of the European Union is often apparent in the policies designed or implemented in Ireland. Vidovich (2007) attributes this unimaginative policymaking in nation states as a response to the pressures of globalisation; in the case of Ireland and the European Union it is the pressures of Europeanisation. Documents, such as *Developing Coherent and System-Wide Induction Programmes for Beginning Teachers: A Handbook for Policy-Makers*, leave member

states in no doubt of the “benefits of policy cooperation with European Union partners” (European Commission, 2010, p. 5).

The policy makers within the Teaching Council are subject to these same pressures to follow current trends to create policy and procedures that will add to the knowledge economy. In 2009, the Teaching Council published a piece of research they had commissioned, entitled *Learning to Teach and its Implication for the Continuum of Teacher Education: A Nine-Country Cross-National Study*. Of the nine countries that were part of the study, five of these were member states of the European Union and three of the five were Ireland’s closest neighbours: Northern Ireland, Scotland, and England (Conway et al., 2009). The demand to align policy with European counterparts can be seen as apparent in the selection of countries for this research.

Another important aspect of the formation of policy pertaining to teacher education and professionalism came in the form of the OECD. In 1991, the OECD reported, “Ireland has been fortunate to maintain the quality of its teaching force” (OECD, 1991, p. 100). Although Ireland was commended for its teachers, the OECD strongly recommended “creating a framework in which the elements of induction and in-service play a role at least as vital as that of initial training” (OECD, 1991, p. 92). This sentiment was again echoed by the OECD *Teachers Matter Report* (2005), highlighting the importance of induction in retaining quality teachers through experienced teachers supporting NQTs during the induction process.

European influence on policy for induction and probation is evident in the policies pertaining to induction in Ireland. In 2010, the European Commission published a handbook to guide the policy makers in member states who are “working on improving educational systems” (European Commission, 2010, p. 6) and, in particular, on the creation

of “system-wide support measures” (European Commission, 2010, p. 7) for NQTs. Many aspects of the Irish induction model, and particularly the pilot of the *Droichead* model, reflect one of the handbook’s key messages for “mentoring, expert inputs, peer-support and self-evaluation” (European Commission, 2010, p. 7) as part of the system-wide support.

Economic and Political Impact on Teacher Induction in Ireland.

There were other significant factors that affected the Irish educational landscape at this time. Following the economic downturn towards the end of the last decade, many aspects of Irish society were negatively affected (Fitzgerald, 2012), not least education. Previously acclaimed by the OECD reports (1991), Irish education now came under harsh criticism in PISA results published in 2010 by the OECD. This, combined with systematic cuts to education and educational provision by a series of austerity budgets, left morale low in Irish education.

In 2012, the Inspectorate of the DES “unilaterally dropped the probation of Newly Qualified Teachers from their workload” (McCutcheon, 2012, para. 1). The Teaching Council had proposed CEPP as the means by which the Inspectorate might be replaced. The absence of an outside evaluation and the onus on teachers in schools for “ensuring that they [NQTs] are competent practitioners” (Teaching Council, 2012, p. 2) had caused outrage amongst teachers, particularly principals who voiced their concerns about the ever increasing workload being placed on them due to cutbacks made in response to the economic climate of recent years. This was acknowledged by the Teaching Council as aforementioned (Teaching Council, 2013e, p. 21).

The *Teachers Matter Report* (OECD, 2005) urged educational systems to ensure that NQTs would partake in an induction process where they would be supported by experienced teachers and benefit from experiencing the continuum that teacher education

should be; and not a career based on the skills and knowledge imparted at initial teacher education alone. Calls for a systematic induction process had been made in Ireland, previous to the OECD 2005 report, at The National Education Conference (Coolahan, 1994) and by both the *Green Paper* and the *White Paper* on Education, in 1992 and 1995, respectively. In 2009, Conway et al. baulked at the fact that “a decade and a half later, induction is *still* [emphasis added] in a pilot phase” (Conway et al., 2009, p. 175). However, when the Teaching Council began the CEPP consultation, the absence of outside evaluation, and the onus on teachers in schools for “ensuring that they [NQTs] are competent practitioners” (Teaching Council, 2012, p. 2), had caused outrage amongst teachers; particularly principals who voiced their concerns about the ever increasing workload being placed on them due to cutbacks made in response to the economic climate of recent years..

When the induction workshop programme of the NIPT was, finally, made a requirement for registration with the Teaching Council, there was significant resentment from NQTs regarding the additional time required of them, which had not been required of their colleagues, previously. This additional time requirement was, not only subject to teachers, but all public sector workers at that time. In 2010, a public sector agreement was brokered between the government and the public services committee of the Irish Congress of Trade Unions (ICTU), to protect pay and prevent further redundancy as a reflection of the economic climate; this was known as the Croke Park Agreement (Department of Public Expenditure and Reform, 2010). As of February 2011, the Croke Park Agreement required teachers to work an additional hour per week of the school year. NQTs were angered that their additional hours at induction workshops could not be counted towards those in the agreement.

Policy Reform for Teacher Induction.

In 2010, policy reform for induction and probation began in earnest, with the DES outlining to the Teaching Council that “priority should now be given to clarifying arrangement for induction and probation” (Coughlan, M. to Á. Lawlor, 21 July, 2010). It was from this point that the CEPP consultation process began in 2012. Although the respondents to the consultation process outlined the merits of having an induction programme for the continuation of teacher education, there were many grave concerns relating to the operation and implementation of the policy. The response from teacher representative bodies was, largely, negative, as previously noted. The new model of induction for post-primary was unprecedented at post-primary level, which as previously noted, had not, traditionally, had any requirements for probation or induction.

With the introduction and ultimate rejection of the CEPP document by teachers during its consultation process the policy stream was rife with ideas for the formation of policy to fill the void. Zahariadis (2007) brings attention to the fact that although not all policies are born out of an emergency situation there is often a “sense of urgency in addressing [it]” (p. 68). It has already been noted that the Minister had outlined the intention of passing the responsibility of induction and probation to the Teaching Council in the near future, with the disapproval of CEPP by a large cohort of the teaching profession, the Teaching Council had to act quickly “lest the opportunity pass them by” (Kingdon, 2003, p. 165).

An important development in the policy arena surrounding induction was the issuing of two directives by the INTO to its members not to participate in the pilot programme *Droichead*; such participation would result in disciplinary procedures (INTO, 2012; INTO, 2016b). This augmented the policy trajectory. The concern as to the implementation of such a model on the already burgeoning time constraints on their

members was the initial reasoning for implementing such a directive, followed subsequently by a ballot to all members to cease any and all participation and cooperation in the pilot until concerns regarding accountability and quality assurances were adequately discussed with all stakeholders.

The renewed policy for induction involved a stepped, roll-out approach to the model over a period of three school years, with an opportunity for policy review in the final year of this schedule (INTO, 2016; Teaching Council, 2016). A revised policy for *Droichead*, which is not operational across all settings at present but in a phased growth model (Teaching Council, 2018), makes it explicit that *Droichead* is a non-evaluative professional induction process; meaning that neither principals, school colleagues, nor external school colleagues will be engaged in the evaluation of NQTs for registration purposes. This new policy development has caused considerable debate around induction being an open-ended phase of professional learning, rather than a phase traditionally marked by a formal assessment, with the report from an INTO consultation with its members stating that “there are genuine and legitimate concerns that it [*Droichead*] will adversely impact on the profession and may not enhance the probation process for NQTs” (INTO, 2013b, p.1). There is considerable flexibility regarding the implementation of the model in schools in areas such as the role of principals, and the composition of the PST. This policy reform might have been chosen to scaffold those unfamiliar with open-ended professional learning culture, which is needed to replace the traditional evaluative induction phase. The latest policy also marks out an extended growth phase (Teaching Council, 2018), whereby *Droichead* will be the route of induction for all NQTs by the 2020/2021 school year.

The changing from DES inspectorate to the Teaching Council having responsibility for induction and probation was imminent and the Minister of Education and Skills had

indicated the intention of the commencement of Section 7 of the Teaching Council Act. This gave the Teaching Council the “opportunity to advance their idea, raise their problems and push their proposals” (Kingdon, 2003, p. 186) despite dissention for pressure groups, such as the teachers’ unions.

The Teaching Council, on this occasion, coupled with the political pressure and the issue of formulating a model for induction and probation, aligned itself with an alteration of CEPP which had been previously considered. In formalising the *Procedures for Induction and Procedures and Criteria for Probation* (Teaching Council, 2013c) policy, which includes the *Droichead* pilot, the Teaching Council cemented the provision of a number of essential components, ensuring their ability to create and maintain a model of induction. The Teaching Council “put in place a requirement for mandatory participation in the National Induction Programme for Teachers (NIPT) for NQTs from September 2012” (Ward, E. to T. Ó Ruairc, 1 September, 2012). Additional staff and training within the NIPT were necessary. In 2011, “106 facilitators [had] been trained by NIPT” (Morgan & Burke, 2011, p. 146). Currently, the number of facilitators at primary level stands at 276 (V. Behan, personal communication, May 23, 2017), whose role is to deliver the workshop programme through the Education Centre Network. In addition to this, there are 48 associates (V. Behan, personal communication, May 23, 2017) working with the NIPT for the primary level team who are nominated by the NIPT “to support the *Droichead* process in pilot schools” (Teaching Council, 2013c, p. 5).

Relevance to the Research.

The area of induction and probation is currently poised to change in the Irish context, as outlined above. The impact of the development of a Teaching Council, and the pressures of economic and professional reform, have left the teaching profession facing many new changes. The fast pace of these changes and an animosity, which has developed

throughout an economic recession, has left teachers with serious reservations regarding their role in the induction of NQTs. Although the policy reforms have seen the Teaching Council addressing many issues in the first iteration of an induction and probation process, as well as the addition of associates and regional development officers to aid the work of the NIPT, the time commitment and responsibility required of teachers still remains an issue. There are many misconceptions in the teaching profession also regarding the proposed model for induction, as the speed with which the pilot changed was not necessarily noted by all teachers. This outdated understanding of the process, coupled with the negative connotations of an INTO (2013a) directive to cease cooperation or participation in the *Droichead* pilot, have fostered a reluctance on the part of the profession to engage with the model of induction. This study is therefore located in a context of unrest in the profession in relation to elements of teacher induction. In this way, this study will utilise the policy and procedures put in place by the Teaching Council but also aim to allay fears of disrupting collegiality and creating biases amongst staff.

Mentoring and Newly Qualified Teachers.

The mentor is defined by the NIPT (2013) as the facilitator of the induction process in schools. Since the 1980s, mentoring as a school-based activity has become a central part of supporting the initial preparation, induction and early professional development of teachers in many parts of the world (Hobson, Ashby, Malderez & Tomlinson, 2008). Numerous studies have suggested that mentoring is an important and effective form of supporting the professional development of NQTs (Carter & Francis, 2001; Franke & Dahlgren, 1996; Marable & Raimondi, 2007). Teacher mentoring, as part of the supports allocated to the induction of teachers into the teaching profession, has been used in many countries such as the UK (Furlong, 2000), the US (Odell, 1986), the Netherlands (Veenman & Denessen, 2001), the Republic of Ireland (Morgan & Burke, 2011), Norway

(Nilssen, Gudmundsdottir & Wangsmocappelen, 1998), Sweden (Franke & Dahlgren, 1996), and China (Wang & Paine, 2001). It is important to note here that many of these countries engaged in teacher mentoring long before, some almost two decades before, it became a national strategy of teacher induction policy in Ireland, a delay which was noted in the literature (Conway et al., 2009). The creation of strategic policy relating to induction of NQTs and, as a result, mentoring, is a new development in the Irish educational context and the exploration of the professional relationship between mentor and NQT in this study is, therefore, timely. Before conducting that exploration, a brief note of the benefits, as well as the challenges or tensions for mentors and NQTs, is outlined below.

The benefits for NQTs who have the support of a mentor includes reduced feelings of isolation, increased confidence and professional growth, and enhanced self-reflection and problem solving (McIntyre and Hagger, 1996). Most NQTs comment that the emotional and psychological support received from mentors is the greatest benefit and is linked to greater job satisfaction (Bullough, 2005; Johnson, Berg & Donaldson, 2005; Lindgren, 2005; Marable & Raimondi, 2007). Areas such as classroom management, behaviour management and time and workload management are also positively impacted by the support of a mentor (Lindgren, 2005; Malderez, Hobson, Tracey, & Kerr, 2007; Moor et al., 2005). Importantly, mentors are hugely significant in the socialisation of NQTs, and helping them to assimilate to the standards and expectations with their specific school setting and with teaching in general (Bullough & Draper, 2004; Edwards, 1998; Feiman-Nemser & Parker, 1992; Wang & Odell, 2002).

An NQT begins to teach and learn to teach as soon as they take on their position in a school, irrespective of background or situation (Feiman-Nemser, 2001). This may be slightly augmented in the Irish context as school placement during ITE has been extended significantly (Teaching Council, 2013d). It is the belief of this study, however, that despite

an extended placement of up to ten weeks during ITE, the challenges represented by Veenman (1984), as previously noted, would still have an impact on NQTs as they take responsibility for their own students in the role of qualified teacher. It has long been identified that teachers, beginning to teach, journey through a set of phases in their first year (Fuller, 1969). The idea of a calendar of concerns for NQTs has been examined and illustrated by Moir (1999) as the stages NQTs encounter as they progress through their first year of teaching. On beginning to teach, NQTs are full of anticipation for the year ahead. Following swiftly on from this, anticipation is a feeling of surviving each day and the NQT is concerned with themselves; this reflects Fuller's (1969) first phase of concern. The NQTs begin to feel disillusioned and begin to focus on the completion of tasks; this stage usually happens at the end of the first school term. Following this stage, NQTs begin to feel rejuvenated, perhaps from the support of a mentor or colleague or the break at the end of term. This stage develops throughout the latter part of their first year into reflection on teaching to impact upon the learning of their pupils.

Mentors also experience benefits from their participation in the process as evidenced, predominantly, by mentors themselves (Hagger & McIntyre, 2006; Lopez-Real & Kwan, 2005; Yeomans & Sampson, 1994). Mentors, generally, express that their professional learning is positively impacted by their engagement with mentor training courses and through opportunities to talk to others about teaching and learning (Hagger & McIntyre, 2006; Lopez-Real & Kwan, 2005). During their participation in mentor training, particularly when facilitated by university tutors, mentors felt that their own practices were validated and they reported feeling less isolated due to their increased collaboration with others (Hagger & McIntyre, 2006; Lopez-Real & Kwan, 2005; Simpson, Hastings & Hill, 2007). Furthermore, studies have noted that this validation has positively impacted upon mentors' own teaching and learning, their relationships with colleagues, and their

relationships with all pupils (Bodoczky & Malderez, 1997; Davies, Brady, Rodger & Wall, 1999). Many studies have shown that mentors enhance and add to their teaching styles and use and knowledge of ICT, are open to new ideas and perspectives, and improve their communication skills through their role as mentor (Abell, Dillon, McNerney & O'Brien, 1995; Davies et al., 1999; Lopez-Real & Kwan, 2005; Moor et al., 2005; Simpson et al. 2007). Davies et al. (1999) also reported that mentors became more self-reflective, while others noted that mentors became knowledgeable about beginner teachers' professional development needs, as well as others' professional development needs (Lopez-Real & Kwan, 2005; Moor et al., 2005).

Professional relationships of mentors and NQTs. The mentor-mentee relationship has long been established as an important but problematic relationship worthy of investigation, due to the potential insights it may provide regarding the concept of learning to teach (Borko & Mayfield, 1995; Cornbleth & Ellsworth, 1994; Feiman-Nemser, 1983; Graham, 1997; Stanulis, 1994). It is a relationship fraught with tensions that should be explored through thick description, according to Griffin (1986) and Zeichner (1987).

Jones (2002) identified a tension that emerged from the incompatibility of two opposing principles inherent in the role of mentor within the induction process in the UK, namely that of 'supporter' and 'assessor'. Her study noted that there was a conflict of interest where the role of mentor was also the role of assessor of the NQT, which caused tension and stress for the NQTs (Jones, 2002). There is a possibility of the same conflict of interests or tension developing within the model of induction and probation in the Irish context. To date, where an NQT is progressing through the traditional induction and probation process, as outlined above, the 'support' was the role of mentor and the 'assessor' the Inspectorate. In March 2017, a draft policy published by the Teaching Council stated that the policy was not operational at present but was a revision of the

proposed model for induction of NQTs. It includes, amongst other things, a change in the language around the recommendations to be made to the Teaching Council following school-based induction. The language of probation and evaluation has been removed and replaced with a joint declaration signed by the NQT and all members of the PST, including the mentor, stating that the NQT is “ready to move to the next phase of [their] professional learning, and [they] have collaborated with [their] PST to identify the following area(s) of interest for [their] future professional learning” (Teaching Council, 2017, p. 11). The members of the PST sign this declaration to confirm that the NQT is ready to do so, following their engagement with *Droichead*, and that the Teaching Council register should be changed to reflect this, thus giving the NQT full registration with the statutory regulatory body for the teaching profession.

Although the language has changed, the draft policy has not been implemented and it is yet to be seen how this alteration will be received in schools. It does appear to have many similarities with the initial consultation document CEPP produced by the Teaching Council (2012), which required a joint declaration that the NQT had engaged with the process and has met the requirement for full registration. This was signed jointly by the NQT, principal and mentor; there were no PSTs envisaged at that time. It is worth noting here that CEPP was met with very strong opposition when it was brought to consultation process. Perhaps the new variations on the *Droichead* might meet with the same reception in schools. If that is the case, the proposed revision might still have an impact on the mentor-NQT professional relationship.

The use of co-teaching as a catalyst for developing the professional relationship during induction is built upon the recent changes in the policy surrounding teacher education. The policy changes have created a relationship where the NQT will no longer be an ‘unprobated’ teacher but rather a colleague who has collaborated with others in

identifying areas of professional development. This open-ended approach to teacher education in induction and continuous professional learning is welcomed in the approach of this study, which fosters the collaboration and co-reflection amongst colleagues to develop professional relationships. The study also acknowledged the change in professional learning relationships due to the policy change in school placement for ITE. NQTs have had the experience of working collaboratively with a more experienced teacher during school placement. This structured learning relationship during ITE may impact the learning culture between novice and experienced teachers. Teaching Council policies outlined here, have identified the importance that both novice and experienced teachers have learning opportunities within all roles and at all phases of teacher education. The stance taken in Irish policy context that all teachers, irrespective of their position on the continuum of teacher education, are teacher-learners impacts upon this study as it considers the role of both mentors and NQTs in their professional relationships and professional development.

Tensions in professional relationships between mentor and NQT. Graham (1997) proffered two major tensions within the NQT-mentor relationship, as philosophical differences and tolerance for uncertainty, as a result of the analysis of a collaborative inquiry and teacher research. Philosophical differences are inevitable, as they are founded through multiple personal factors in a teacher's view of education (Barnes, 1992; Munby & Russell, 1992). School context where teachers have worked, as well as "family values, apprenticeships of observation, teacher education programmes, experiences with authority figures; coalesce to create a philosophy of education" (Graham, 1997, p. 517). Therefore, there is every chance that mentors and NQTs will have personal teaching philosophies that are difficult to modify or assimilate to another's philosophies (Grossman, 1990; Lortie, 1975). The tolerance of uncertainty is something that is easier to consider in light of

Feimen-Nemser's (2002) idea that the NQTs are teaching and learning to teach. NQTs are often searching to attain the image "of 'teacher' as one who is certain and stable" (Graham, 1997, p. 516). As a result, many NQTs are trying to attain immediate answers or fixes to their practice, without regard for the forging of openness to the uncertainty of teaching in any classroom. NQTs in the Irish context who have engaged in extended school placement during their ITE will have been accustomed to structured relationship between their ITE school placement tutor and the co-operating classroom teacher (Teaching Council, 2013). Perhaps this structure would foster amongst the mentor-mentee relationship structured and open communication. Alternatively, the NQT may need to negotiate a new relationship with an experienced colleague who has no responsibility to the NQT's students unlike the role played by the co-operating classroom teacher during extended school placement. This could create tensions in the mentor-mentee relationship as the anticipated role of mentor (Jones, 2009) may not align with the needs of both the NQT and the mentor.

Leshem (2012) concurs with Graham (1997) that tensions could be considered sites for professional inquiry. Jones (2009) furthers this point and suggests that there is the potential within these tensions to build collaborative learning communities working "towards relationship building" (p. 13). The self-reflective practices needed to engage with the tensions within the mentor-mentee relationship, as well as the collaboration and communication that must be fostered to resolve these tensions between NQTs and mentors, will be engaged as part of the co-teaching partnerships within this research. The elements of these co-teaching partnerships and models of co-teaching will be explored in the next section.

Co-teaching: Definitions, Origins, Applications and Implications

There are many definitions of co-teaching. For the purposes of this study, Murphy and Scantlebury's (2010) definition will be used: "Co-teaching is two or more teachers teaching together, sharing responsibility for meeting the learning needs of students and, at the same time, learning from each other" (p. 1). Co-teaching occupies one physical space, that is to say that co-teaching is understood here, not to include where teachers plan a unit of work, together, but deliver it in separate places. Friend (2014) illustrates, in Figure 2 below, several models of co-teaching. Each of these models of co-teaching will be explored and the benefits and limitations of each will be examined in a subsequent section.

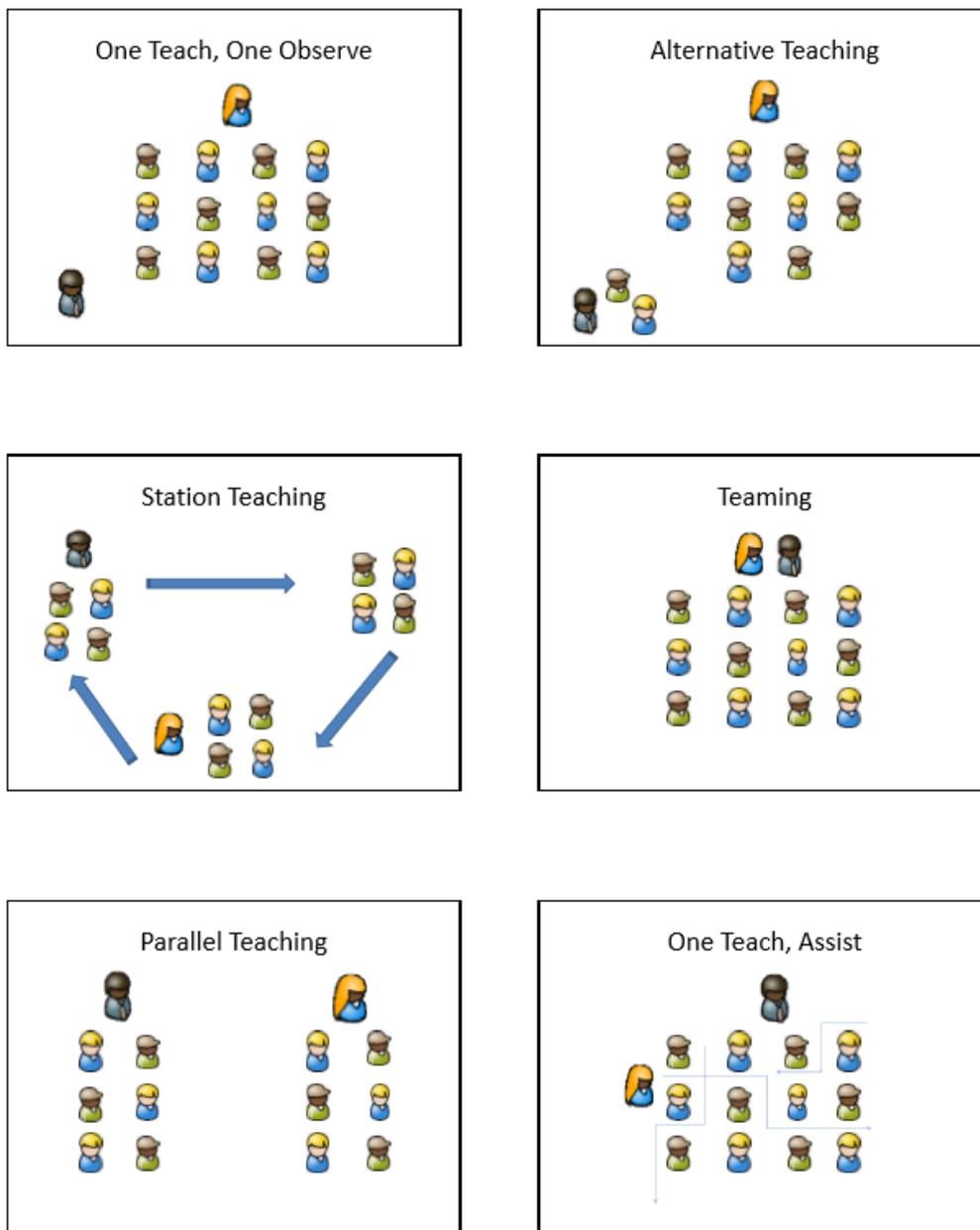


Figure 2. Six models of co-teaching. Reprinted from *Co-Teach: Building and sustaining effective classroom partnerships in inclusive schools (2nd edition)* by M. Friend, 2014, Greensboro, NC: Marilyn Friend, Inc. Reprinted with permission.

A central concept and benefit for the pupils in a co-taught classroom, noted by Cook and Friend (1995), is that of the “unique possibilities that occur from the different but complementary perspectives of the professionals involved” (p. 1) in delivering co-taught lessons. Teachers co-teach for a number of reasons. Cook and Friend (1995) comment that two of the most noteworthy elements of a rationale for co-teaching are to

“increase instructional options for all students [and] improve program intensity and continuity” (p. 3). Ultimately, teachers primarily co-teach as a means of creating better learning opportunities for pupils and to decrease barriers to learning.

Origins of Co-teaching as a Pedagogy in Education.

Co-teaching as a pedagogy has been in use since the 1960s (Trump, 1966; Warwick, 1971) when it was recommended as a strategy to reorganise second level schools in the United States of America and in England. Team teaching was identified as a variant of co-teaching, where teachers shared responsibility for planning but continued to teach separately in many open-concept schools in the 1970s (Easterby-Smith & Olive, 1984). In the 1990s, co-teaching was used in middle school reform, with a focus on school transition and interdisciplinary cooperation (MacIver, 1990). In recent times, there has been a large interest, in co-teaching as a means of reducing barriers to learning for pupils (Friend, 2008; Mastropieri et al., 2005), in the roles and relationships of teachers in co-teaching, and on the impact this has on the effectiveness of the experience (Friend & Cook, 2010; Magiera, Smith, Zigmund & Gebauer, 2005). There has also been interest in the logistics of how co-teaching can happen in classrooms (Kohler- Evans, 2006). These topics will each be discussed, along with the application of co-teaching in specific sectors; that of special education and ITE.

Co-teaching as a Pedagogy of Special Education.

Co-teaching has been used widely in special education as a means of creating inclusive education space. Co-teaching found a niche in special education in the 1970s, with Bauer (1974) and Walker (1974) noting the effectiveness of the relationship between special educators and general educators. Additionally, Garvar and Papania (1982) discussed the use of team teaching for teachers in special education settings. Co-teaching was a means to facilitate, “efforts to include students who have disabilities in general

education” (Pugach & Winn, 2011, p. 36) and, often, the teachers who co-taught were classroom teachers and special education teachers.

Co-teaching within special education settings has been encouraged and is part of many school policies and practices in recent times in the Irish primary school context. The main body responsible for teacher professional development, the Professional Development Service for Teachers (PDST), and the National Council for Special Education (NCSE), both have many training programmes and reports written on the topic of co-teaching or team teaching as part of inclusive practice (PDST, 2013; Rose, Shelvin, Winter & O’Raw, 2009).

The role of co-teaching as part of special education, inclusion and the education of teachers in special education has a two-fold significance for this study. Two of the mentors who participated in the study were working in special education roles within their schools, while all the mentors had attended the training programmes provided for team teaching for inclusive practice, as aforementioned. Also, much of the literature and research, discussed here, comes from the special education sector, and thus this context was considered, and also discussed, as part of the CAR cycle meetings and when sharing resources during these meetings.

Co-teaching in Communities of Practice.

Communities of practice encourage the learning of a profession through engaging with others who have experienced the learning, thinking, and practice of that profession (Lave & Wenger, 1991; Wenger 1998). Typically, a teacher learning community or community of practice (Wenger, 1998) happens when teachers meet to discuss their practice outside their classrooms for the purposes of professional development (Gallo-Fox, 2010). Wenger (1998) proffers that there are three elements to any community of practice: mutual engagement, joint enterprise, and shared repertoire. Mutual engagement is defined

here for this study as occurring when members of a community of practice build collaborative relationships that create a shared responsibility towards the community, as well as the relationships within. Joint enterprise is defined for this study as the shared understanding of the community of practice and is negotiated and developed through the interactions of the members of the community. Shared repertoire, for this study, is considered the result of the participants' mutual engagement and joint enterprise, which develop a shared repertoire of resources that help sustain and reinforce the community of practice. Such resources might be literal or symbolic and may include experiences, stories, tools, and ways of addressing challenges; the development of such is a process that takes time and sustained interaction (Wenger, 2011). Wenger (1998) suggests that 'negotiating a joint enterprise gives rise to relations of mutual accountability among those involved' (p. 81). This links with the idea that teacher professional development models can be transformative endeavours, where there is greater capacity for the participants in the community of practice to develop professional learning and relationships in response to their own reflections and needs.

According to Darling-Hammond and Richardson (2009), effective professional development, which allows for job-embedded learning opportunities, will increase teachers' pedagogical knowledge. Communities of practice can create positive learning environments, which promote teacher learning, and the application of teacher learning to classroom practice (Achinstein, 2002; Freedman, 2001; Grossman, Wineburg & Woolworth, 2001). However, few communities of practice consider co-teaching as a means of adding to the learning within the community of practice (Gallo-Fox, 2010). However, there is literature that suggests that teachers are motivated to collaborate with colleagues and engage with job-embedded professional development, when these may increase student achievement (Goldschmidt & Phelps, 2010; Hudson, Hudson, Gray & Bloxham,

2013; Rytivaara & Kershner, 2012). When co-teaching does happen as part of a community of practice, teachers suggested support systems such as, ample opportunities to collaborate with others, equal access to professional development, and sustained support from administration (Karpen, 2015). Building a community of practice within co-teaching is critical to the effectiveness of the learning for teachers in this experience. The continued professional conversations within a group, as part of effective co-teaching, and as an element of communities of practice, have been identified by Roth and Tobin (2005), Scantlebury, Gallo-Fox and Wassell (2008), and Juck, Scantlebury and Gallo-Fox (2010). Teachers who are involved in a community of practice and who work in co-taught classrooms may increase their knowledge of collaborative practice through these professional conversations but additionally through sustained, meaningful engagement in collaborative activities (Musanti & Pence, 2010; Pella, 2011) such as co-teaching. Pella (2011) argued that teachers who participated in such learning communities focus on collaborating on creating strong learning activities, rather than on student deficiencies.

The isolation of teaching as a profession has long been noted and the influence it has on maintaining conservative practices (Lortie, 1975). Teachers who participated in Gallo-Fox's (2010) co-teaching as part of a community of practice were reported to have broken from the traditions of teaching of concern to Lortie (1975) and fostered both individual and collective learning. Recognising that professional development happens as a result of the community itself and the interactions within a community of practice and not solely as a result of structured or planned learning experienced is paramount in Wenger's (1998) theory on social learning. These social learning opportunities arising from participation in communities of practice are reflected in the collective learning experience identified by Gallo-Fox's (2010) co-teaching community of practice. Kennedy (2006) suggests that "participants' awareness of the existence of the community is surely central to

their internalisation of such learning” (p. 60). This study explicitly outlined the role of community and collaboration of its participants. This links to the understanding of legitimate peripheral participation within communities of practice and how those who are deeply engaged in professional development might encourage those around them to participate in their learning and professional development. These ideas will be explored further in the section on teacher professional learning

Relationships and Agency in Co-teaching.

Some of the main issues arising from the concept of co-teaching come from the fact that co-teaching is a relationship and the work involved depends on creating, maintaining, and developing effective relationships. Communication, trust, and respect and collaborative problem-solving are elements of co-teaching relationships (Bauwens & Hourcade, 1995; Pugach & Johnson, 1995). The elements of co-respect and co-responsibility were highlighted by Juck, Scantlebury and Gallo-Fox (2010) in their study regarding ITE and co-teaching practices. They described these as key components to effective co-teaching relationships. These components are also central to the relationships in this study and form part of the collaborative nature of the methodological approach and the application of communities of practice within that approach. Co-teachers need to have high levels of communication in their planning, implementation, and assessment of any lesson. Personal characteristics, with defined and clear professional roles, greatly influence the relationship between co-teaching partners and the degree of success they can hope to achieve from such a situation. It is the mix of the personal and professional that can cause issues amongst co-teaching partners. Areas, such as shared responsibility, dealing with other adults, teaching styles, and feedback, all present as potential obstacles and significant challenges to co-teaching partners. Cook and Friend (1995) suggest that “co-teaching is not a comfortable arrangement for all professionals” (p. 9); for some teachers accommodating

another adult in their practice can seem challenging, although they suggest that reflection on the issues will develop a teacher's own understanding of their readiness to co-teach and their needs within a co-teaching relationship.

It is these same issues that also present themselves as characteristics of effective co-teaching, as outlined by Friend and Cook (2010). By identifying teaching styles, willingness to work with other adults, and by carefully considering and examining the demands of a co-teaching experience, a solid and considered decision can be made to engage with co-teaching. Cook and Friend (1995) suggest, prior to beginning a co-teaching partnership, that each teacher should examine their readiness to initiate such a relationship with another teacher by asking themselves the following questions:

1. To what extent am I willing to let someone else carry out teaching tasks at which I am particularly skilled?
2. How willing am I to allow a colleague to see aspects of my teaching in which I am not particularly skilled?
3. To what degree do I believe that there is more than one right way to carry out almost any teaching/learning task?
4. How willing am I to tell a colleague when I disagree about an issue or have a concern?

(Cook & Friend, 1995, p. 10)

Reflecting on these questions highlight to the teacher their readiness to participate in co-teaching, but will also aid in critical reflective practice. The dialogues from these questions form the basis for creating and maintaining an effective co-teaching relationship.

Flexibility and commitment to the concept of co-teaching are considered essential to a co-teaching relationship (Armbruster & Howe, 1985; Gelzheiser & Meyers, 1990; Redditt, 1991). A "strong clinical judgement" (Cook & Friend, 1995, p. 10) is also important in evaluating the insight gained from working alongside another teacher, and to use this insight in teaching and learning.

Co-teachers must trust their co-teacher to deliver on what was communicated and acknowledge the importance of their input into the co-teaching experience. Fostering trust

and collaboration are essential elements to maintaining an effective, successful relationship (Cook & Friend, 1995). Teachers have reported “feelings of anxiety in regard to enacting the role as co-teacher” (Murphy & Beggs, 2010, p. 19). When teachers do not feel they have an equal status in the co-teaching experience, other issues may arise. Bacharach, Heck and Dahlberg (2010) proffer that there can be a power differential between a more expert or experienced teacher and the other teacher; in this case, teachers need to be shown to “address issues of parity and gain experience in how to work as a team” (p. 38). Furthering this point, Murphy and Beggs (2010) suggest that the more experienced teacher mentoring the novice teacher can “serve to diminish the agency of the [latter] and make the latter feel as though they were being judged” (p. 20).

Agency is considered in this study to convey the capacity to impact upon one’s habitus. Bourdieu (1984) defined habitus as “a structuring structure, which organises practices and the perception of practices.”(Bourdieu, 1984, p. 170). Habitus refers to the system of structures which are embedded within an individual or a collective consciousness. Habitus is created primarily through our socialisation into the world via family, culture and education and has the potential to impact upon our actions. However, Bourdieu (1984) contended that when an individual is both reflective and aware of their habitus they possess the potential to observe social fields with relative objectivity. Habitus is defined here as “the system of durable representations by which people organize their practices” (Hayrynen, 1999, p. 121). This definition was chosen for this study as it identifies the organisation of peoples’ practices. The organisation of induction, as outlined here from the policy context, is of central focus when considering the agency of mentors and NQTs within this study. Identifying agency and habitus as an individual in the teaching culture might include how they were disposed to the task of teaching at ITE, their apprenticeship of observation, as described by Lortie (1975), the range of learning

situations that they encounter (Eteläpelto, Vähäsantanen & Hökkä, 2015), and what they consider as the motive of teacher education (Postlethwaite & Haggarty, 2010, p. 65). Teachers might add to their own agency when supported “through meaningful experiences to question their own beliefs and practices” (Kinnucan-Welsch, 2007, p. 275), such as co-teaching with CAR. The development of such is supported in this study by the model of teacher CPD selected, the endeavour to increase teacher self-efficacy levels and the engagement with signature pedagogies of teacher education. All of these elements will be detailed in the section on professional learning. Briefly, all of these elements include reflective practices, collaboration and job-embedded learning, which are fostered by CAR with co-teaching but also foster the policy goals outlined in the continuum for teacher education and induction previously.

To cultivate a balance of agency in a co-teaching partnership, Bacharach et al. (2010) suggest empowering the novice teacher in professional relationships to use their agency. This seems, however, to be but half of the solution, as there can only be balance if both the novice teacher and the mentor are equally involved in building the relationship. It can be argued that the would-be mentor teachers need to be shown how to encourage equality and parity in their co-teaching partnerships. This study created a process where the agency of both novice and experienced teachers was furthered by having the participants engage with others in an ordered context and lead them to a transformation of their habitus. It is in creating the shared agency amongst participants that may allow them to consider that “cultural forms are not just made and repeated... they are also changed and transformed by agents” (Sullivan, 1984, p. 148) and that they possess the agency to make changes to much more than their individual practice.

To help cultivate a well-balanced, positive and effective co-teaching relationship, there are many topics that should be discussed by the co-teaching partners. Redditt (1991)

identified that an effective relationship can be built and maintained by discussing these topics, which are often simple matters. Smaller matters being dealt with quickly and openly was seen as a way to diminish the opportunity for issues to fester and weaken the co-teaching relationship, according to Cook and Friend (1995). It is proffered here that it is essential to the success of co-teaching that co-teaching partners engage fully with these discussions before beginning to co-teach and periodically review these discussions to facilitate open communication. Table 1 shows the items for discussion that Cook and Friend (1995) suggested as a basis for co-teaching partners to begin their communication. It is important to note that the discussion is not limited to these items but that co-teaching partners are encouraged to add to this list to tailor it to their own situations. These topics were used as part of the process of co-reflection with CAR in the study to help scaffold the participants' discussions and reflections regarding co-teaching.

Table 1 Questions for Creating a Collaborative Working Relationship in Co-Teaching (Cook and Friend, 1995, pp. 21-22).

Topic	Questions
Instructional	<ul style="list-style-type: none"> * What are our overriding philosophies about beliefs, the roles of teachers and teaching, and students and learning? * How do our instructional beliefs affect our instructional practice?
Planning	<ul style="list-style-type: none"> * When do we have at least 30 minutes of shared planning time? * How do we divide our responsibilities for planning and teaching? * How much joint planning time do we need? * What records can we keep to facilitate our planning?
Parity Signals	<ul style="list-style-type: none"> * How will we convey to students and others (for example, teachers, and parents) that we are equals in the classroom? * How can we ensure a sense of parity during instruction?
Confidentiality	<ul style="list-style-type: none"> * What information about our teaching do we want to share with others? * Which information should not be shared? * Which information about students can be shared with others?
Noise	<ul style="list-style-type: none"> * What noise level are we comfortable with in the classroom?
Classroom Routines	<ul style="list-style-type: none"> * What are the instructional routines for the routines classroom? * What are the organizational routines for the classroom?
Discipline	<ul style="list-style-type: none"> * What is acceptable and unacceptable student behaviour? * Who is to intervene at what point in students' behaviour? * What are the rewards and consequences used in the classroom?
Feedback	<ul style="list-style-type: none"> * What is the best way to give each other feedback? * How will you ensure that both positive and negative issues are raised?
Pet Peeves	<ul style="list-style-type: none"> * What aspects of teaching and classroom life do each of us feel strongly about? * How can we identify our pet peeves so as to avoid them?

Benefits and Limitations of Co-teaching Models.

As previously discussed, the importance of creating, sustaining, and engaging with an effective co-teaching relationship is paramount in reaping the benefits of such a teaching and learning experience. Murawski and Swanson (2001) suggest that the effective characteristics of such a successful and effective relationship include “parity, voluntariness, professional status, shared resources/accountability/ responsibility, and the use of a variety of approaches for co-teaching” (p. 262). Having discussed the relationship of co-teaching partners above, the following will outline the approaches or models of co-teaching and their benefits and limitations for both the teachers and pupils.

Friend’s (2014) six models of co-teaching were illustrated previously in this chapter. Each of these models can be augmented and variations arise and develop in response to, the subject being taught, the age and ability of the pupils, the readiness of the co-teaching partners, and, of course, the local needs of the school. Each model offers a different opportunity for co-teaching partners and no one model is superior to any other; frequently, in a co-taught group, several models may be used during any one lesson. Here, each of the models will be presented in terms of the benefits and limitations for both pupils and co-teaching partners. In all of the models, below, for the purposes of this study, the models reflect any classroom that can be found in the Irish primary context, with pupils of all abilities and needs catered for within each group outlined.

One Teaching, One Assisting/Observing: In these two models of co-teaching, there is the least amount of planning and comfort needed between co-teaching partners. Both teachers are present; however, one takes the lead in instruction, while the other observes pupils, drifts around the groups or seating to check for understanding and engagement with the lesson, or assists the lead teacher with resources activities etc. This model gives access to pupils who need additional support with materials and concepts as it is being taught.

This model has significant limitations in the development of an equitable co-teaching relationship. One teacher is readily identifiable as the lead teacher; this may lead pupils to respond only to that teacher as the ‘real’ teacher (Cook & Friend, 1995) and leave the other teacher feeling “like a glorified teaching assistant” (Cook & Friend, 1995, p. 8).

Station Teaching: The content of a lesson is divided in this model into two or more sections and happens in different locations within the classroom. Each of the co-teaching partners will teach their element of the lesson with a small group of pupils. Once the allocated time has passed, the teachers will swap groups and repeat the teaching of their content to the new group. This approach requires both teachers to share the responsibility of planning the lesson and division of the contents between them, thoroughly. The delivery of the content is still very much separate and can help teachers to develop their comfort levels with co-teaching. Additionally, in this scenario, both teachers have equal status within the class. Pupils benefit from the lower pupil teacher ratio (Word, 1990; Alspaugh, 1994) and pupils of all abilities can be included in the groups. Limitations arise with time management; the co-teaching partners need to pace their element of the instruction to match that of their counterpart, to avoid conflict and frustration at regarding the transition from one group to another.

Parallel Teaching: Both teachers are required to teach the same lesson content to half of the class group (Friend, Cook, Hurley-Chamberlain & Shamberger, 2010). Co-teaching partners, again, have a shared responsibility to plan together but each teacher delivers independently from the other teacher to their half of the class group. As with station teaching, issues can arise with time management and pace, as well as commitment to the lesson planned, to ensure all pupils in the class group receive the same content and/or instruction. This being said, a variation of parallel teaching is to teach the content differently and asking the pupils to share as a whole class plenary activity.

Alternative Teaching: Requires one teacher to teach the whole group while the other teaches a smaller group. As Friend, Cook, Hurley-Chamberlain and Shamberger (2010) succinctly describe it: “one teacher works with most students while the other works with a small group for remediation, enrichment, assessment, pre-teaching, or another purpose” (p. 12). Co-teaching partners need to be aware of noise levels when employing this model of co-teaching, as well as being aware of the pace and content of both the whole class group and that of the smaller group.

Teaming: Team teaching has many iterations as a model for teaching (Shaplin, 1964; Garvar & Papania, 1982) and team teaching is distinct from, but not exclusive to, co-teaching. For the context of co-teaching, it is described by Jang (2006) as teachers taking turns in leading and both playing roles in the teaching of a lesson to a class group. Whilst one partner is teaching, the other may demonstrate, model questions or activities to the pupils (Friend & Cook, 2007). This model requires a high level of communication, trust, and preparation to be successful and effective and to limit any anxiety for the co-teaching partners. Some co-teaching partners may never be comfortable with this level of co-teaching, although many who have applied this model note its positive impact and “that it gives them a renewed energy in their teaching and prompts them to try new ideas for reaching their students” (Cook & Friend, 1995, p. 9).

Each of these six models of co-teaching was explored as part of this study. Smaller group settings, a variety of teaching and learning approaches, and instructional styles, are beneficial to pupils, as has been noted above in every model of co-teaching. The challenges for teachers were also noted, and suggestions to limit their impact were noted. These six models are most effective when teachers draw on the characteristics and discussions mentioned with reference to building the relationship between co-teaching partners. Crucially, once teachers have begun to build this relationship, they must reflect on their

experience collaboratively and pursue professional growth as part of a teacher community (Darling-Hammond & McLaughlin, 1995; Firestone & Rosenblum, 1998; Roth et al., 2002; Jang, 2006).

Barriers to Effective Co-teaching.

A meta-analysis of 32 qualitative studies (Scruggs, Mastropieri & McDuffie, 2007) outlined a number of common barriers to effective co-teaching experiences; planning time, student skills, lack of administrative support, and the subordinate role of one teacher, usually the special education teacher. The importance of clarity of communication and time to plan and collaborate for successful co-teaching relationships was also noted by McConkey and Abbott (2011). Not only should time be allocated for collaboration for effective co-teaching, but it is also key for allowing teachers time for adequate training for their own professional learning in the area of co-teaching and collaborative practice (Murawski & Hughes, 2009).

Austin (2001) suggested that school support of co-teaching was a significant issue for co-teaching partners. Often co-teachers stated that they were satisfied with co-teaching and their co-teaching partner but not with the level of support received from the school. Co-teaching partners felt they needed more time to prepare for co-teaching activities. Additionally, Austin (2001) recommends that co-teaching be supported by school administration by promoting co-teaching models and supporting co-teachers to share planning and preparation, classroom management, and collaboration.

Barriers to successful inclusion of teachers and students within co-taught classrooms were also noted as having an impact on effective co-teaching (Orr, 2009; Woodcock, 2013). Chang and Lee (2010) suggested that by tackling inclusion collaboratively and sharing the planning of activities for pupils with varying education

needs suited the co-teaching experience of the teachers, as well as the pupils in a co-taught classroom. By doing so collaboratively, the co-teaching partners are sharing the responsibility towards classroom management and good practices for inclusion, rather than one teacher taking the sole responsibility. The value of another teacher's experience can add to the management strategies or inclusive practices of each teacher in the co-teaching partnership (Austin, 2001).

Many studies refer to the concept of voluntariness in co-teaching; teachers volunteer to be in a co-teaching relationship. Many sources note the critical nature of voluntariness on the part of the teachers engaging in the process co-teaching (Armbruster & Howe, 1985; Cook & Friend, 1995; Dettmer, Dyck, & Thurston, 1995). Pugach and Winn (2011) suggest that teachers who opt into co-teaching are more satisfied with the process and conveyed great respect amongst the co-teaching partners, as opposed to teachers who did not volunteer to participate in co-teaching but who were compelled to for other reasons. However, not volunteering to participate in a co-teaching relationship need not be a barrier to effective co-teaching relationships, with Austin (2001) noting that most of the co-teaching partners in that research had not volunteered for co-teaching; however, the findings showed that the vast majority of co-teachers "agreed that collaborative teaching was a worthwhile professional experience" (p. 253).

Co-teaching during Induction within this Study.

As presented above co-teaching has many applications in educational settings and the benefits for pupils have been noted (Cook & Friend, 1995; Murphy & Beggs, 2010). This study, however, was concerned with the use of co-teaching in teacher education, specifically at induction level of teacher education. The exploration of policy in the previous section has identified the use and benefits of co-teaching during ITE, and as part of communities of practice, that they might be drawn on, in the analysis of the findings of

this study. The policy jigsaw around teacher education in the Irish context has been briefly outlined here. The impact of extended school placement on NQTs from their ITE experiences has been alluded to in relation to their expectations for the professional relationship with a mentor for induction purposes. Additionally, extended school placement could foster a culture of learning between the novice and experienced teachers which “will enrich learning outcomes for both current and future learners; and — it will deepen the professional satisfaction and improve the status of teachers” (Teaching Council, 2013d, p.7). The Teaching Council (2013) policy on ITE school placements cultivated the learning of both novice and experienced teachers and it could be assumed that this is a trait that would be carried through their professional learning journeys. It is the belief of this study that such co-operative learning relationships at ITE will positively impact upon the professional learning relationships which are the focus of this study. In this way, co-teaching as a co-operative learning experience during the induction phase of teacher education should serve the implementation of a non-evaluative induction phase of teacher education. Equally, co-teaching in this policy context could develop the opportunities afforded to schools, for experienced teachers and NQTs during extended school placement to “foster open dialogue on teaching and learning and offer a variety of opportunities for real engagement and learning among teachers throughout their careers” (Teaching Council, 2013d, p.9). In light of this context the simultaneous professional development of both mentor and NQTs within the induction phase through professional learning experiences such as co-teaching builds on the policy and practice of ITE learning experiences. Also presented in this section were the various models of co-teaching and the challenges facing those wishing to develop a co-teaching relationship, which are significant to the research questions in this study. Engaging with co-teaching; its challenges and structures, during

induction may create a site of inquiry (Leshem, 2012) to address potential tensions in the mentor-mentee relationship.

In the analysis of the literature on co-teaching as a pedagogy of ITE, some questions arose regarding issues of agency; are issues innate where a pre-service teacher co-teaches with an experienced teacher? Additionally, questions arose as to whether there would inevitably be issues of agency in any co-teaching partnership. These questions were explored through a series of discussion topics, and reports from authors on ways to create and sustain an equal status amongst co-teaching partners. This is a topic that could be explored further, as co-teaching is increasingly employed across all levels of education. For the purposes of this study, the impact co-teaching has on the relationship of mentor and NQT will be explored and analysed in terms of agency. The self-reflective and collaborative responses to challenges within co-teaching and potential tensions in the mentor-mentee relationship may also be promoted through the engagement with the professional development models and ideas outlined in the following section regarding teacher professional learning.

Teacher Professional Learning

This section will examine four elements of teacher professional learning: the theory of signature pedagogies and their impact on professional learning, teacher self-efficacy and professional learning, the elements and evaluation of professional development models, and an overview of the national context of teacher professional learning in Ireland.

Signature Pedagogies.

As briefly outlined in the research problem previously, the idea of teachers being educators at induction level has not been thought of in terms of pedagogy. Rather, teacher educators, in this instance the PST, have been given activities and ways to scaffold

professional conversations. It is proffered here that, for teacher learning to be truly successful at induction level, or any level for that matter, pedagogies, rather than activities, should be central to the process. Co-teaching as the focus of this study is offered here as a possible pedagogy that could be employed. Before investigating co-teaching as a pedagogy to teach practising teachers, some thought will be given to signature pedagogies of teacher education.

Shulman (2005a) describes signature pedagogies as having several common threads throughout all professions. He states that among these the “universal feature of signature pedagogies is that they make students feel deeply engaged” (Shulman, 2005a, para. 14). For learning to be successful and meaningful, students, who in this case are NQTs at induction, need to engage with the subject matter or topic, as opposed to being an audience to a lecture. Shulman also suggests that, by engaging students with signature pedagogies, they have greater accountability towards themselves, their teacher, and their fellow students, which ultimately leads to “a much higher affective level in class” (Shulman, 2005a, para. 15).

According to Loughran (1997), an important principle of pedagogy is the relationships forged at the heart of teaching and learning. It has been discussed how relationships can impact on co-teaching but it is imperative to note that all teaching and learning is “enhanced through better understanding the participants in the teaching and learning environment” (Loughran, 1997, p. 59). Shulman (2005b) notes that “signature pedagogies of professions are designed to transform knowledge attained to knowledge-in-use” (p. 20); co-teaching requires the participants to engage with the knowledge of syllabus, curriculum and so forth and adapt it to the needs of the participants in the teaching and learning environment. This study endeavours to explore the application of co-teaching as a signature pedagogy of the teaching profession, encouraging teachers to

discuss collectively their teaching practices, as scaffolded by the co-teaching questions for effective relationships and also by choosing models of co-teaching that respond best to their teaching and learning environments.

Self-efficacy and Teacher Learning.

The term self-efficacy refers to an individual ability to enhance or hinder motivation (Bandura, 1997). Like signature pedagogies, teachers with high levels of self-efficacy can positively influence their learning and that of their pupils. Teacher self-efficacy is generally connected with their belief that they can positively affect the learning of their pupils. There is a substantial amount of literature that pertains to this belief, in ability and the positive influence on student outcomes in various settings and circumstances (Bandura, 1997; Bruce & Flynn, 2013; Goddard, Hoy, & Hoy, 2004; Morgan & O’Leary, 2004; Tschannen-Moran & Hoy, 2001). Bruce and Flynn’s (2013) three year study reported positive links between the effects of professional learning on self-efficacy and student learning. Additionally, teachers with high levels of self-efficacy often have less occupational stress and will tend to have greater job satisfaction (Brown, 2012; Swackhamer, Koeller, Basile, & Kimbrough, 2009; Skaalvik & Skaalvik, 2010). Equally, teachers experiencing low levels of self-efficacy tend to experience less job satisfaction, have less confidence in their own content knowledge, and are less likely to explore new areas of teaching practice, in comparison with those teachers who have high levels of self-efficacy (Briley 2012; Viel-Ruma, Houchins, Jolivette, & Benson, 2010).

Teachers’ levels of self-efficacy are developed when their learning and professional development is aimed at sustainable classroom strategies that are presented with teachers’ prior knowledge as a basis (Bruce, Esmonde, Ross, Dookie, & Beatty, 2010; Hollenbeck, 2013). As previously mentioned, when teachers engage with job-embedded professional learning, their professional knowledge is positively affected; this in turn promotes higher

levels of self-efficacy (Polly et al., 2017). Chong and Kong (2012) also suggest that teachers who work in small groups to research and plan lessons stimulate higher levels of self-efficacy. Additionally, collaboration with teachers who possess higher levels of self-efficacy can have positive effects on other teachers and pupils (Shidler, 2009). These teachers can also encourage other teachers to move from “knowledge attained to knowledge-in-use” (Shulman, 2005b, p. 20) through classroom-embedded learning (Bruce et al., 2010; Shidler, 2009). Swackhamer, Koellner, Basile and Kimbrough (2009) argued that professional development should be designed to add to teachers’ self-efficacy, as well as teachers’ content knowledge. Purzer (2011) furthered this by suggesting that professional development should include activities that would increase the self-efficacy of the entire group. Links between CAR as a collaborative, job-embedded model of professional development and teacher self-efficacy are discussed in the findings chapter.

Co-teaching can impact positively upon self-efficacy and engagement with professional learning. Teachers in ITE, engaged in co-teaching as part of their professional development, had an increase in confidence levels and skills and were more prepared to work in inclusive settings classrooms (Voss & Bufkin, 2011). Pancsofar and Petroff (2013) noted that co-teachers who engage with more opportunities for professional development have increased levels of positive attitudes when compared to co-teachers with less professional development. As previously noted, the extension of school placement at ITE has increased the opportunity for both mentors and NQTS “to share their professional expertise and to observe and be informed about a variety of approaches to teaching and learning” (Teaching Council, 2013d, p. 9) in a co-operative and collaborative manner. Induction relationships may be impacted upon by the experiences and expectations of relationships from ITE, however the extension of school placement may also impact on professional learning. NQTs and mentors, who have engaged with school placement for

ITE purposes, are more likely to have positive attitudes to professional development following from the work of Panscofar and Petroff (2013).

The impact of co-teaching with CAR on professional relationships, engagement with professional development, and transferring of knowledge-attained into practice are examined here.

Professional Development Models and Framework for Analysis.

Garet, Porter, Desimone, Birman and Yoon (2001) comment that much has been written regarding the area of continuing professional development and many large and small scale studies have been conducted regarding teacher professional development. Guskey (2000) defined professional development as “those intentional, on-going and systemic processes and activities designed to enhance the professional knowledge, skills and attitudes of educators so that they might in turn, improve the learning of pupils” (p. 16). Hogan et al. (2007) added that teachers’ perceptions of professional development are often viewed as solely attending courses and workshops outside of the classroom. For the purposes of defining professional development in this study, Day’s (1999b) description will be used:

Professional development consists of all natural learning experiences and those conscious and planned activities which are intended to be of direct or indirect benefit to the individual, group or school and which contribute through these to the quality of education in the classroom. It is the process by which, alone and with others, teachers review, renew and extend their commitment as change agents to the moral purposes of teaching; and by which they acquire and develop critically the knowledge, skills and emotional intelligence essential to good professional thinking, planning and practice with children, young people and colleagues through each phase of their teaching lives (p. 4)

Smith (2012) comments that the personal, social, and professional development of teachers are captured by this definition. These are all elements that will be considered within this study.

The characteristics of good professional development were distilled by Garet et al. (2001) as part of their large scale analysis of professional development. They outlined the major factors to consider in the relationship of professional development with teacher outcomes, as follows:

- Collective participation in professional development influenced the degree to which teachers changed their classroom practice;
- Active learning for teachers;
- Focus on content relevant to curriculum
- Duration and contact hours of professional development influence teachers' active learning;
- Enhanced knowledge and skills are likely to lead to change in teacher practice;
- Coherence of the professional development programme with classroom or school practice (i.e. job-embedded) influence teachers to change their classroom practice

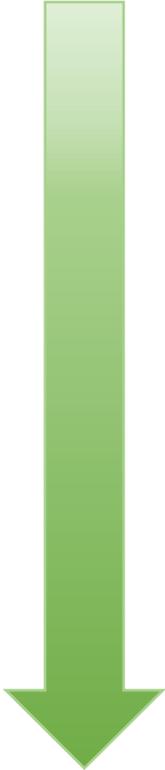
(Garet et al., 2001, pp. 930-934)

There are many models of professional development in the literature (Loucks-Horsely, Hewson, Love & Stiles, 1998; Sparks & Loucks-Horsley, 1990). The review of the literature focused here on Kennedy's (2005) framework for analysis of nine categories of professional development, described by Kennedy as models, of continuing professional development. Kennedy's framework was used as an impetus for the analysis of professional development employed during the process of this study.

Kennedy (2005) categorised professional development as transmission, translational, or transformative. These categories reflected the effects on teachers' practice and increasing order of capacity to be transformative, in increasing the "capacity for professional autonomy" (p. 246). The models that have the least capacity to generate transformative action have the transmission of knowledge as their main aim and offer least support to teachers' autonomy but rely on the agenda of others, usually government (Kennedy, 2005, p. 247). On the opposite end of the spectrum are the transformative models; the two models that have transformative action are the action research model and the

transformative model. These models give agency to teachers to focus on and explore their own learning needs, and thus have the capacity to engender considerable professional autonomy. In between the transmission and transformative models is the transitional model. Professional development within this area of the spectrum can often facilitate both transmission and transformative models of teacher professional development. Table 2 illustrates the spectrum and the models continuous professional development within the spectrum. These models will then be explored.

Table 2 Representation of Kennedy’s (2005) spectrum of Professional Development Models

Model of CPD	Purpose of model	
The training model The award-bearing model The deficit model The cascade model	Transmission	Capacity for Professional Autonomy 
The standards-based model The coaching/mentoring model The community of practice model	Transitional	
The action research model The transformative model	Transformative	

The models of professional development were developed during a wide range policy and literature analysis by Kennedy (2006) as part of her doctoral dissertation research (p. 50-66). These are organised along a continuum which “identifies the relative potential capacity for transformative practice and professional autonomy inherent in each” (Kennedy, 2006, p.50) which form the framework of her analysis of professional development. Although Kennedy’s work dealt with the Scottish context, the policy developments were noted as being a prominent issue in teacher education internationally and that her analysis and framework of continuous professional development [CPD] could be applied to other policy contexts (Kennedy, 2006). The premise of this analysis and categorisation of CPD is that conditions within the context require “teachers to be able to articulate their own conceptions of teaching and to be able to select and justify appropriate modes of practice” (Kennedy, 2006, p.50), This reflects the autonomy, reflection and innovation (Teaching Council, 2011, 2013b) being pursued in the Irish policy context as outlined previously. The nine models within Kennedy’s framework of CPD are described below, with a critical reflection on how they could fit within this study:

Training model: This model is most commonly known to teachers as professional development in the form of attending workshops or courses, usually for the purposes of disseminating new policies, skills and knowledge to teachers. A major criticism of the training model is that it is not embedded in the teachers’ classroom or school situation. It is not a pertinent model for use in this instance, as it is not cognisant of the individual school and class contexts of the participants.

Award bearing model: Often teachers complete this form of professional development within a higher education institution. The participation with teachers’ professional development within a higher education institution can be viewed as a “mark of quality assurance, but equally can be viewed as the exercise of control by the validating

and/or funding bodies” (Kennedy, 2005, p. 248). As a model, it is not useful for the purposes of this study, as the focus is on engaging teachers in their own professional learning and not in exercising control over them, either through assessments or through standardising the experiences of participants to create the availability of “award-bearing provision” (Kennedy, 2006, p. 52).

Deficit model: This model focuses on the perceived deficit of individual teachers. It does not “take due cognisance of joint responsibility i.e. that the system itself is not considered as a possible reason for the perceived failure of a teacher” (Kennedy, 2005, p. 239). Additionally, Smith (2012) comments that is “it may not be good for teacher confidence” (p. 78). The study here focused on empowering the participants through the research to critically reflect on their teaching and to acknowledge the role of context and system that affects their teaching. The participants were encouraged to consider these reflections as a process of learning to design and implement change.

Cascade model: This model requires individual teachers to attend an event and then share information or skills with colleagues. It requires less funding for resources that would be otherwise needed to disseminate the knowledge to a larger teacher population. The model is relatively cheap in terms of resources and is used in situations where there are limited resources. Day (1999a) highlights on a case study of teachers within the cascade model that “no detailed consideration was given to the very principles of participation, collaboration and ownership which had characterized their own learning” (p. 126). The model presented here requires the full engagement and participation of all those involved during the process.

Standards-based model: This model presumes that there is a system of efficient teaching, which can be replicated in demonstrable practice. This model “represents a desire

to create a system of teaching, and teacher education, that can generate and empirically validate connections between teacher effectiveness and student learning” (Beyer, 2002, p. 243) and is not cognisant of the complexity and contextuality of teaching. In complete contrast with the standards-based model, the study hopes to acknowledge the complexity and contextuality of induction within schools, as provided by school-based teacher educators.

Coaching / mentoring: This model occurs primarily between two teachers as a professional support system. Confidentiality and good communication are two key elements to the success of this model. Robbins (as cited in Rhodes & Beneicke, 2002) outlines this model as one which engages two or more colleagues in reflection and collaboration to “expand, refine and build new skills; share ideas; conduct action research; teach one another, or problem solve within the work-place” (p. 298). The model in this study identified with Robbins and considers the agency held between a mentor and a mentee and seeks to find a level of equity or parity between them, in so far as is possible within the model of induction.

Community of practice model: Where the coaching/mentoring model focuses on two teachers, the community of practice model “generally involves more than two people, and would not necessarily rely on confidentiality” (Kennedy, 2005, p. 244). Collaboration and sharing of individual knowledge is central to the formation of new knowledge (Omidvar and Kislov, 2014). The importance of shared reflection and discussion, and their transformation into action, were core elements of the model developed in this study.

Action research model: Teachers investigate aspects of their own practice with a view to improving or changing it. It is embedded in the teachers’ classroom practice and “provides an alternative to the passive role imposed on teachers in traditional models of

professional development” (Kennedy, 2005, p. 245). It empowers teachers to see research as a process that they can control and augment to make relevance to themselves. This model was augmented to include communities of practice, at both school level and at an inter-school level. These communities were facilitated by the researcher, as external collaborator. The collaboration between the researcher and the participants, as well as amongst the participants, was central to the process.

Transformative model: This model incorporates practices from other models. Kennedy (2005) comments that “it could be argued that the transformative model is not a clearly definable model in itself, rather it acknowledges the variety of different circumstances needed for transformative model in itself; it recognises the range of different conditions required for transformative practice” (Kennedy, 2005, p. 246).

Professional Development Models: Reflective Practice and Legitimate Peripheral Participation.

As shown above, professional development can be categorised through Kennedy’s framework for analysis. The analysis of any professional development must consider a variety of needs; of individual teachers, schools and the system. Currently, for example, the transmissive model is suited to the dissemination of information regarding the new language curriculum (DES, 2015). Conversely, for the purposes of this study, a transformative model; collaborative action research is suited as an approach to research and professional development.

Guskey (1995) notes that there is no best professional development model; however, as discussed previously, there are a number of characteristics to guide effective professional development, no matter what model is used. Additionally, ongoing opportunities for reflective practice is a key element for professional development to affect

teachers' current practices (DuFour, 2007; Hayes, 2012; Killion & Roy, 2009). The significance of reflective practice has long been discussed (Schön, 1983, 1987). Brookfield (1995) proffered four lenses for teachers to critically reflect as teachers; our own views as teachers, our pupils' eye, colleagues' views, and theoretical perspectives (p. 29-39). Darling-Hammond and McLaughlin (1995) emphasised that time must be given within professional development for teachers to "reflect critically on their practice and to fashion new knowledge and belief" (p. 597).

Brookfield (1995) also suggests that there are three cultural barriers that can hinder critically reflective practice; a culture of silence, where teachers do not share their classroom practices publicly; a culture of individualism, where teachers tend to work in isolation (Lortie, 1975); and a culture of secrecy, where teachers only discuss matters not viewed as potential weakness. Smith (2012) suggests that teachers are not inclined to be critically reflective as part of a collaborative community of learning and, as such, time and attention must be given to critical reflective practice with professional development. This study considered these obstacles scaffolded the discussion of these concepts and critical reflection as a group. Participants were also afforded the opportunity to practice critical reflection on an individual level before practicing critical reflection as a collaborative activity, as part of the external community of practice.

Lave and Wenger (1991) do raise the issue of legitimate peripheral participation in considering the relations between 'newcomers' and 'old timers' in a community of practice, considered here as NQTs and mentors as experienced teachers. This conceptualises the task of 'newcomers' engaging in low risk tasks and directly observing the practices of 'old timers' to begin to assimilate to group learning and eventually become an old timer themselves. The acknowledgement that communities of practice are, not only subject to changing in the involvement of 'newcomers' and their learning, but that

'everyone's participation is legitimately peripheral in some respect', as suggested by Lave and Wenger (1991, p. 117). Thus, their theory of learning within a community of practice was developed to explain the learning of 'newcomers' and was expanded to consider all members in these learning situations. Fuller, Hodkinson, Hodkinson and Unwin (2005), in their reassessment of Lave and Wenger's concept, suggest that there is a theoretical gap, as much of Lave and Wenger's consideration is towards the learning of the 'newcomer' and little towards other members of a community of practice. There is also the concern that a community of practice might serve to "perpetuate dominant discourses in an uncritical manner" (Kennedy, 2006, p. 60) as 'newcomers' might assimilate to the 'old timers' practices and discourses. Here, this study will consider an adaptation of Lave and Wenger's communities of practice by merging them with the CAR framework. The use of co-reflective practices as part of the external community of practice, coupled with the reflective practices at school-based communities of practice and individual reflective practices, will be considered when examining the professional development aspects of this study. While communities of practice, through legitimate peripheral participation, could potentially serve to perpetuate the practices, knowledge and beliefs of experienced teachers in an uncritical manner, it is argued here that through the structured reflections required as part of the CAR methodology and the fostering of agency through co-teaching, this study created a positive, reflective collective and individual site for professional development and inquiry.

Summary

The literature review has considered the national and international contexts and policies that have affected teacher induction in Ireland. The recent and rapidly changing policy landscape around teacher education in the Irish context has brought with it the

potential for new roles with teacher education, opportunities for innovation with teacher education and an augmented outlook on the contexts within which teachers learn. Pressures from both national and international platforms have increased the collaboration between novice and experienced teachers as part of continuous professional learning after ITE to foster a professional learning culture within all teachers which “develop and broaden the professional knowledge, skill and competences appropriate to their teaching” (Teaching Council, 2011, p. 8).

The professional relationship of mentors and NQTs is of utmost importance to this study. These professional relationships have been heavily influenced by the policy context described here. The influence of changing ITE experience on the novice and experienced teacher relationships as well as the formalisation, in many iterations, of a model for induction could significantly impact on these professional relationships. The tension arising through attempting to modify or assimilate to another’s philosophies (Grossman, 1990; Lortie, 1975) when collaborating during induction could pose difficult to both mentors and NQTs. Leshem (2012), however, suggests considering these tensions as sites for professional inquiry. Additionally, Jones (2002) identified mentors being viewed as ‘assessors’ which could cause significant tension within this professional relationship. The latter may be addressed in the recent policy developments within *Droichead* in altering the induction model from one of formal assessment to an open-ended phase of a non-evaluative professional development (Teaching Council, 2017). The potential to reflect, identify and explore these tensions within the professional relationship can be scaffolded through collaboration, communication and the building of understanding and respect that is evident in the model of CAR and through the exploration and implementation of planned co-teaching.

The concept of co-teaching has been defined for the purposes of the study and the application of co-teaching in teacher education has been discussed. The benefits of co-teaching to pupils within the classroom and also to teachers as part of communities of practice have been explored. The impact of co-teaching on professional relationships has also been considered. The importance of reflection and collaborative experiences in co-teaching to pursue professional growth as part of a teacher community (Darling-Hammond & McLaughlin, 1995; Firestone & Rosenblum, 1998; Roth et al., 2002; Jang, 2006) was reported. These reflections and the participation in communities of practice link strongly with the innovations for teacher education explored in the policy arena. They are also fundamental skills in the models of professional development chosen for this study.

Effective professional development frameworks and models of professional development have been discussed in light of the needs of the study. The impact of signature pedagogies and other forms of professional learning on teachers and their self-efficacy has been detailed. It is central to teacher self-efficacy that professional development be job-embedded professional learning (Polly et al., 2017), whilst working in small groups to research and plan lessons stimulate higher levels of self-efficacy according to Chong and Kong (2012). Teachers with high levels of self-efficacy are more likely to promote and encourage learning in others around them (Shidler, 2009). These teachers can also encourage other teachers to move from “knowledge attained to knowledge-in-use” (Shulman, 2005b, p. 20) and foster links with those whose participation within the community of practice is legitimately peripheral, to engage them fully within the community of practice (Lave & Wenger, 1991). Considering the importance of job-embedded, reflective opportunities for professional development (Bruce et al., 2010, Polly et al., 2017) as well as Shulman’s (2005b) elements of signature pedagogies for professional education and Kennedy’s analysis framework for teacher CPD this study

chose co-teaching and CAR to add to teachers' self-efficacy, as well as teachers' content knowledge (Swackhamer, Koellner, Basile & Kimbrough, 2009).

The following chapter will outline the theoretical perspective, methodology and the research design. The chapter will also deal with issues of data collection tools, sampling, ethical considerations, and issues of generalisability and quality assurance.

Chapter Three: Methodology

Chapter Organisation

The research design and methodology are presented in this chapter. The research questions are first identified followed by an outline of the theoretical perspective and how it underpins the research design and implementation. A justification for the utilisation of a collaborative action research approach is provided as well. A discussion follows on the role of the researcher and the use of CAR as professional development. This chapter will outline some key principles drawn from Maxwell (2005) for the conceptual framework for this study. An outline of quality assurance and ethics then follows. The sampling and context of the research are provided, in addition to an outline of the data collection tools and the way in which they were piloted and implemented. The final section of this chapter deals with the analytic process for data handling.

Aims of the Research

This study has identified a number of research problems within the context of teacher education at induction level in Ireland. The imminent change of the model of induction and probation brings with it the issue that the role of teacher educator at induction level will be formally placed in the hands of the PST in schools. An issue identified here focuses on the “induction activities” (Teaching Council, 2014a, p. 13) and guidelines on professional portfolios being given to PSTs in schools. There has been no mention of engaging NQTs in the induction level of teacher education with pedagogy; rather, they have been offered ‘activities’. Shulman (2005a) highlights the importance of engaging learners with pedagogies that promote greater accountability towards themselves, their teacher, and their fellow students, which ultimately leads to “a much higher affective

level” (para. 15) in a learning environment. Thus, the primary research question - ‘How does co-teaching in induction impact on newly qualified teachers and their mentors?’ - was formulated by the researcher. The impact of the implementation of a process of induction, such as *Droichead*, on the relationships amongst school staff was also of interest to the research. Morgan (2014) suggested that such a model for induction could have adverse effects on individual and school community. This concept of induction affecting the professional relationships in schools is articulated in the secondary research question: ‘How does co-teaching influence the mentor – Newly Qualified Teacher relationship?’

Theoretical Perspective

Figure 3 illustrates the process and connection between epistemology and enacting research for the researcher. Constructionism and a critical inquiry stance form the basis of the researcher’s understanding of engagement with the world; both are pivotal in the design of this research process. Each of the stages of the figure and the impact of the constructionism basis and the critical inquiry stance on the research design will be discussed.

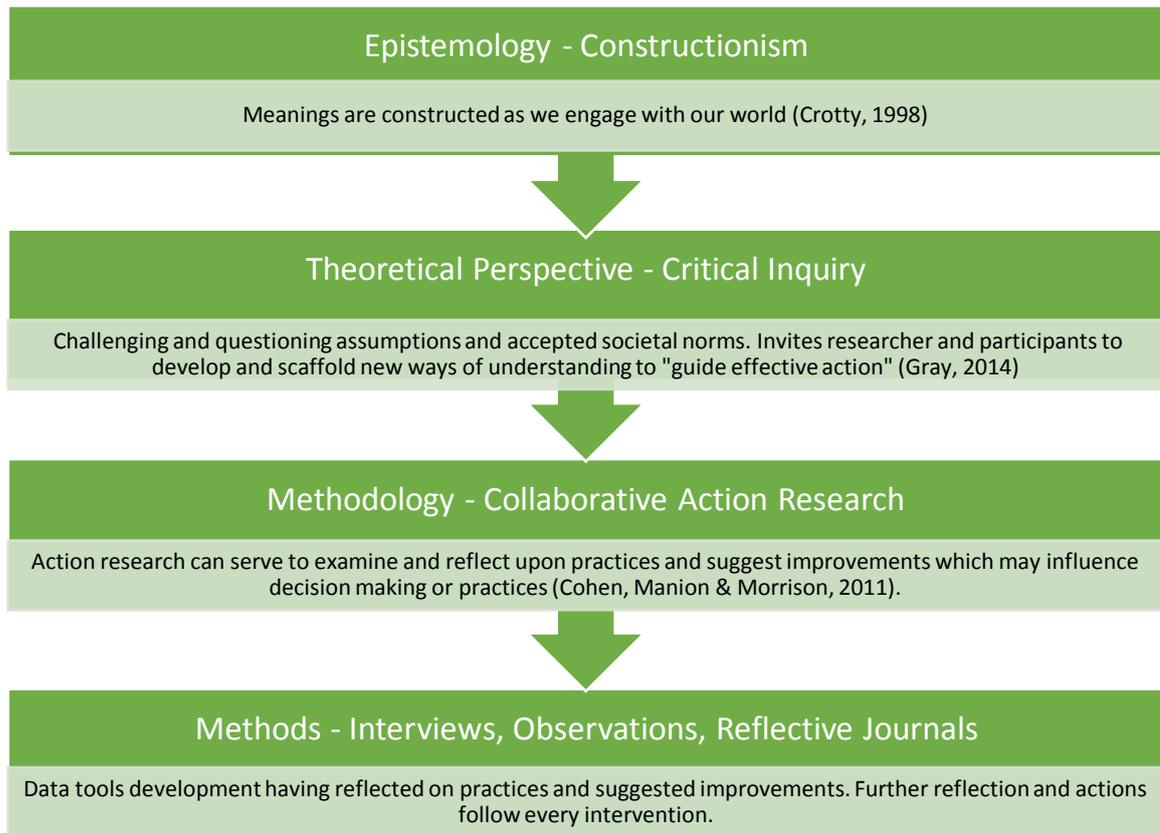


Figure 3. Researcher's Theoretical Perspective and links to Research Design.

Adopting a Critical Inquiry Orientation.

Constructionism is understood as the making of meaning in our world; meaning that is formed through the interaction of humans with each other and with their world (Crotty, 1998). Constructionists believe that human practices are as a result of the interactions between humans and their world. For the purposes of this study, these human practices focus on those within communities of practice, as created in response to the research question, the adoption of CAR and the induction process. These practices and interactions are further influenced by the theories of dynamics of power, agency, identity, and participation in community of practice. The dynamics of power here are considered in the way that individuals can have power over the process of learning and participating with

the community of practice. As is suggested by Lave and Wenger (1991), either ‘newcomers’ may not have power for full participation or that, equally, they could have the power to transform the knowledge base of the ‘oldtimers’ through engaging with the community of practice (Carlile, 2004). Agency, as previously outlined here, is one’s capacity to impact on habitus. Individuals may maintain their agency within a community of practice through adoptions and adaptations of their identity and through the way in which they participate in the community. (Handley, Sturdy, Fincham & Clark, 2006). Identity can be seen as something which emerges from the process of participation with a community of practice and the learning which comes through this participation (Lave & Wenger, 1991). Participation within a community of practice fosters the ‘possibility of mutual recognition’ (Wenger, 1998, p. 56) and the ability to construct and engage with meaning and understanding, but ‘does not necessarily entail equality or respect or even collaboration’ (Handley, Sturdy, Fincham & Clark, 2006, p. 643).

It is the epistemological stance of the researcher that understanding and meaning is constructed as we engage with our world and those in it. This study is constructing understanding and meaning as the participants engage with each other with the community of practice developed by this study. The practices that are formed through the interaction of mentors and NQTs in the induction phase of teacher education are being explored and analysed through engaging with the theory of communities of practice. Communities of practice build their understanding of practice through joint enterprise, shared repertoire and mutual engagement; all of these elements have been discussed previously. In this way, the study can consider the construction of understanding and meaning for mentors, NQTs and those involved in this world of induction within the teaching profession. The study utilises a community of practice within the CAR model; within which theories of dynamics of power, agency, identity and participation can all be explored in the construction of

understanding. The process through which communities of practice develop and construct their understanding of their practice reflects the researcher's constructionist epistemology.

The theoretical perspective of critical inquiry is an important element of the design of this study and affected the methodology that was chosen. The study is concerned with issues of relationships and teacher education in schools; it seeks new ways of understanding such relationships and "take[s] effective action for change" (Crotty, 1998, p. 157). Critical inquiry as a theoretical perspective seeks knowledge in the form of emancipation and "in the context of action" (Crotty, 1998, p. 159). Critical inquiry is the lens the researcher chose for challenging and reflecting upon the practices teachers participate in (Gray, 2013) and the way they interact within these practices. Specifically, the practice of induction is being challenged and examined in this study. Furthermore, critical inquiry examines and accounts for the culture whilst inciting action and striving for change. An alternative perspective could have been chosen, that of interpretivist inquiry. Interpretivist inquiry is concerned with interpreting the meanings, purposes, and intentions interpretations people give to their own actions and interactions with others (Given, 2008). However, most forms of interpretivist inquiry do not consider culture in the same way as critical inquiry, if at all, (Crotty, 1998) and therefore, this would not analyse the culture being examined; in this instance, the culture of teacher education at induction level in Ireland. Additionally, Crotty (1998) states that "by and large, interpretivism is an uncritical form of study" (p.112) and therefore would not fit with the researcher's epistemology and theoretical perspectives which leads her to question the understanding held of the induction processes in place and to consider reflections and actions to that end.

Crotty (1998) illustrates how critical inquiry should be cyclical as a process "of reflection and action" (p. 157), which is a key element of action research (AR). AR in

simple terms is “a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which the practices are carried out” (Carr & Kemmis, 1986, p. 162). This definition fits with the researcher’s epistemology of constructionism, that meaning is formed through social interactions; and with the researcher’s theoretical perspective of critical inquiry, the examination of and challenges to societal practices.

AR can serve to examine and reflect upon practices and suggest improvements that may influence decision making or practices (Cohen et al., 2011). Successful engagement with AR can be transformative and empowering. This study, coming from a critical inquiry perspective, and drawing on ideas such as dialogical relationship that allow “people [to] teach each other” (Freire, 1996, p. 61), in the form of co-teaching, embodies the ideals of emancipatory action research. Emancipatory action research considers a “broader agenda of the changing of education, changing of schooling and changing of society” (Cohen et al., 2011, p. 350). The study suggests co-teaching as a way to overcome the issues of dynamics of power, of agency, and of participation amongst teachers within the induction process and use it as a pedagogy of teacher education. Thus, the study, as emancipatory AR, aims “not only at technical and practical improvement and the participants’ better understanding, along with [...] changing the system itself” (Zubre-Skerritt, 1996, p. 5).

Research Design: Collaborative Action Research as Professional Development

Adoption of Collaborative Action Research.

Collaboration within AR known as collaborative action research (Conway & Borst, 2001; Conway & Jeffers, 2004; Feldman, 1993; Sagor, 1992) is a process whereby the practitioners and the researcher collaborate to create a “methodologically sound study of a

topic relevant to the practitioner” (West, 2011, p. 91). The definition of CAR for this study has been presented in the introduction chapter. This section will explore CAR and how it is adopted within the research design.

The transformation of teacher to teacher-researcher during AR and the transformative role this has on the creation of a more democratic society as described by Cochran- Smith and Lytle (1999) and engagement in any AR inquiry, can be, not only transformative, but empowering (Levin & Merritt, 2006). By engaging in CAR to construct knowledge, participants are also building a “platform for developing more equitable societal relations” (West, 2011, p. 90). It is proffered that a CAR stance, combined with an emancipatory action research stance, is a process that could enhance and encourage “liberating social change” (Greenwood & Levin, 2006, p. 101). CAR used in this way and linked to the theoretical perspective is, not only the methodology that provides a “rationale for choice of methods” (Crotty, 1998, p. 7), but also the method that framed the activities used to collect data in this study. CAR can also be defined as a group of interested parties who cooperate to explore a mutual interest through the cycles of action, experience, and reflection. Together, they create an insight into a particular issue detailing their understanding of the issue and suggesting actions that might improve practice (Raymond, Butt & Townsend, 1992). CAR also includes the added dimension of an external researcher from the university or other body, in this instance named the ‘external collaborator’, who, primarily, facilitates and co-ordinates the inclusion of theory and research along with the teacher-researcher. Therefore, an accepted aim of the theory of CAR is the connection of research, theory and practice in such a way as to impact upon teaching contexts of practice, school culture, student outcomes, teacher self-efficacy, teacher professional learning and educational systems (Blomquist, 1986; Halsall et al., 1998; Knight et al., 2000; Mitchell, Reilly & Logue, 2009; Ross et al., 1999; Simm & Ingram, 2008).

In this study, the cycles of traditional action research are augmented slightly, by including group reflection and discussion fora, to include the researcher and participant as equally important roles in the study but with different responsibilities within the process. The cycles of ‘reflection and discussion’, ‘change’, ‘plan’ and ‘act’ which are reflective of most cycles of AR also resonate with the four elements of Bleicher’s (2013) theoretical framework for CAR. Bleicher (2013) suggests that for CAR to generate effective professional learning four elements must be present:

CAR components include: motivation – teacher orientation and [teacher] self-efficacy; knowledge – adding to knowledge bases about disciplines and students relevant to teachers’ interests; action – change in teaching practice [...]; and reflection – the cornerstone of the entire learning process in which teachers are afforded time and support to connect new experiences to their teaching practice. (p.802)

Motivation is present in this CAR throughout the cycles of ‘reflection and discussion’, ‘change’, ‘plan’ and ‘act’ as the participants engaged with their focus and engagement in the process. The teacher’s involvement in the ‘reflection and discussion’, ‘change’ and ‘act’ elements facilitated their adding to their knowledge bases. Action to change the practices of the participants was embedded not only in the ‘act’ element but also in the ‘plan’ and ‘change’ elements of the cycles. Finally, reflection as a significant component of Bleicher’s theoretical framework was equally important in the cycles of CAR in this study, with time given for both group and individual reflection.

The researcher facilitated the CAR design and initial focus of the study, whereas the ‘reflection and discussion’, ‘change’, ‘plan’ and ‘act’ were all conducted by the participants. The traditional cycles of AR with elements of individual reflection, discussions, planning and acting, were added to with group meetings with these same elements as a focus. Each group meeting was organised by the researcher, who provided

academic material on topics for discussion, such as co-teaching or reflective practice.

However, the content of the discussions, the information shared with others, the reflections made and the agreed actions to take for the next cycle were driven by the participants. The collaborative element of CAR created a community of practice, and this has a significant part to play in the utilisation of this method for the research design. The elements of CAR and the creation of a community of practice facilitated the opportunity for the participants to develop their agency, knowledge base, and reflective practices and implement change in their context. Therefore as a method of AR design CAR encompassed the effective characteristics of AR as stated by Stringer (2013):

- It is democratic, enabling the participation of all people
- It is equitable, acknowledging people's equal worth
- It is liberating, providing freedom from oppressive debilitating conditions
- It is life enhancing, enabling the expression of people's full human potential (p.14-15)

CAR cycles allowed for participants to add their knowledge, practices and reflections to their actions and that of the group in an effort to experience an alternative to the traditional process of 'probation' at the induction phase of teacher education. The aims and methods of this research design endeavoured, therefore, to be democratic and equitable as a community of practice and throughout the process to not only be such but also to create a liberating and life enhancing experience within their professional teaching experience.

Collaborative Action Research as Professional Development.

When action research, in this instance, CAR, informs professional development programmes, they work from the point of view of the person who is learning and an assumption is made that the learner already has a great deal of knowledge; gained intuitively or otherwise from practice. Therefore, during this model of professional development, the learning is not necessarily disseminated by one educator. Instead, one educator, the researcher, facilitated the learning, supported, and structured of the process of

CAR for others. This kind of facilitative model means that the facilitator is also learning; they do not assume the role of expert, nor do they provide answers to issues arising in the context. The facilitator will “actively learn with and from [the participants]; it is a dialogue of equals” (Mc Niff, 2002, p. 23).

Hackling, Peers and Prain (2007) stressed the need for collegial interaction and reflection for professional learning and development to further advance, and for successful enactment of new ideas (p. 4). Dewey (1933) suggested that reflective practices lead to learning, which could in turn impact on the practices of the participants.

The opportunity was given to the participants to reflect through their own journaling and with colleagues and construct a professional conversation as part of the CAR model of professional development through five cycles. AR, as a model of professional development, within a framework of analysis for models, has been discussed in the literature review. CAR adds to the model of AR, the collegial interaction and brings element of the community of practice to the model. Communities of practice have also been outlined as a model of professional development in the literature review. Zeichner and Conklin’s (2005) meta-analysis of several studies on CAR reported that participation in CAR as a means of professional development increased their levels of teacher self-efficacy. An approach that is “based on collegiality and collaboration, and a ‘bottom-up’ approach [...] premised on the principle of partnership, with shared responsibility and common goals” (Killeavy & Murphy, 2006, p. 3), such as CAR, is central to the development of an effective induction process.

Towards a Conceptual Framework

A conceptual framework is defined by Maxwell (2005) as “the system of concepts, assumptions, expectations, beliefs and theories that supports and informs the research” (p.

33). The conceptual framework is intended to connect the literature review with the research questions. A central purpose of the conceptual framework is to validate the reasoning for the investigation of the chosen topic and anticipate relationships that may become apparent in the investigation in light of the research question (Eisenhart, 1991). Maxwell (2005) lists four main sources for the construction of a conceptual framework for a study; thought experiments, the researcher's own experiential knowledge, existing theory and research, and pilot or exploratory research (p. 37). These four elements are highlighted here and are noted throughout this chapter, and in the findings chapter.

Thought Experiments.

Lave and March (1975) used the thought experiment in social sciences to construct a “simplified picture of a part of the real world” (p. 3). The thought experiment for this conceptual framework is outlined in Figure 4, as a conceptual framework map. The conceptual framework “explains, either graphically or in narrative form, the main things to be studied – the key factors, concepts, or variables – and the presumed relationships among them” (Miles & Huberman, 1994, p. 18). Figure 4 depicts the contextual issues arising in teacher education for induction, from which the research questions emerged, the overriding ideas from the literature review of co-teaching, communities of practice, professional development models, and CAR methodology. The concept map highlights the central roles of researcher and participants to highlight the mentor-NQT relationships, and the impact of experiential knowledge on the study. The relationships between ideas outlined in the literature and in the researcher's experiential knowledge are made via arrows in Figure 4.

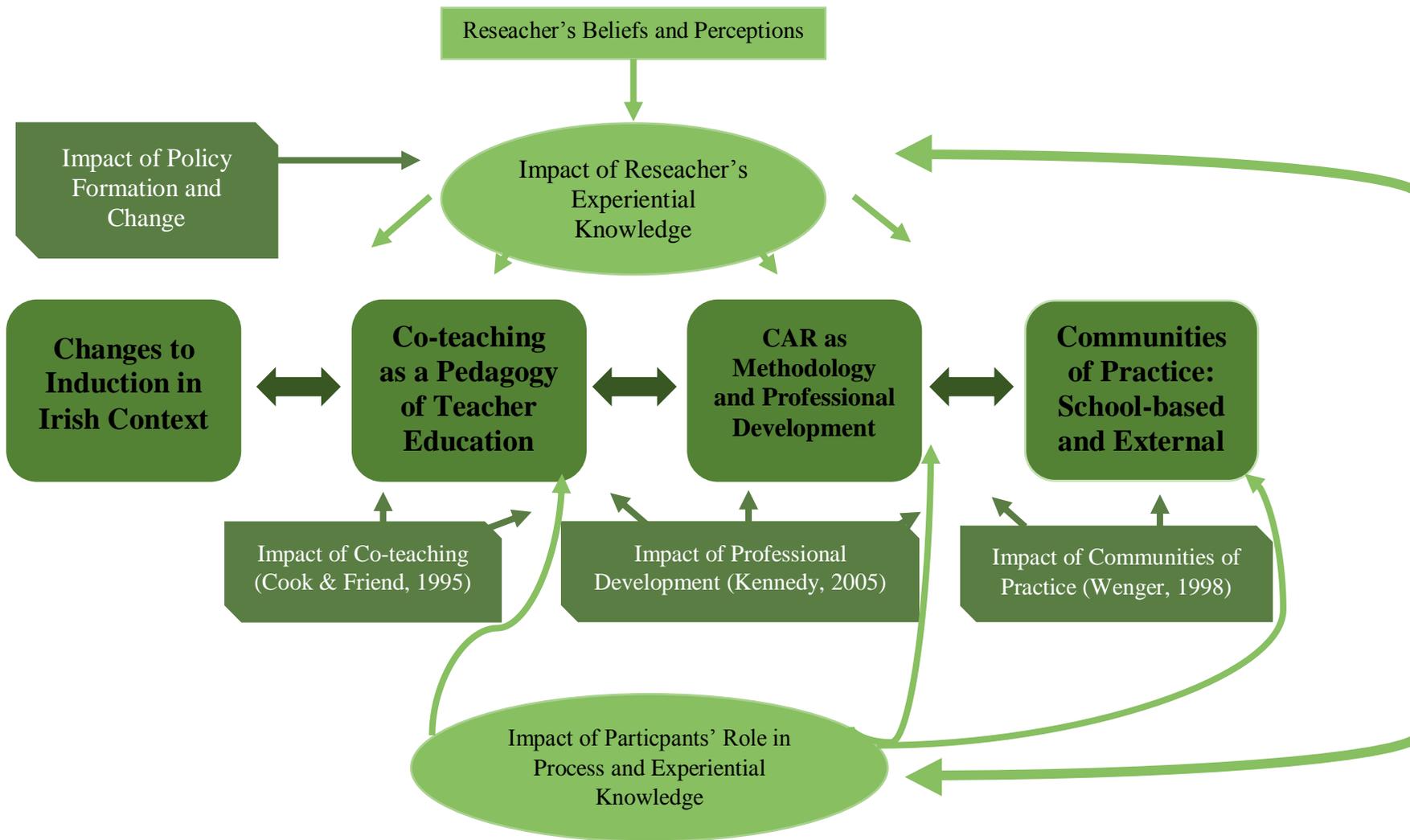


Figure 4. Conceptual Framework for the Study.

Researcher's own Experiential Knowledge of the Induction Process.

I was invited to train as a mentor with the NIPT in 2011. I have also worked as a facilitator for the workshop programme and as an associate. I have observed NQTs who have disengaged from their own continuum of education, when in fact they have completed only one element. It appears to me that the importance of the induction process is often known to those helping to facilitate and encourage it but not to those who should benefit from it. Perhaps this is because mentors and facilitators are engaged on a regular basis in professional development, as provided by the NIPT, exploring the theory and research that acts as a basis for induction. This CPD for mentors and facilitators explores the rationale behind the development of the induction processes and programmes, there are often seminars on the structure and teaching methodologies within the induction workshop programme. Mentors and facilitators are given input in areas such as the continuum for teacher education and their journey within it, as well as their role as teacher educators within it. This rationale for how the induction processes are presented as they are and also the importance of the continuum for teaching education is not something that is often readily afforded to NQTs nor made explicit to them.

As a researcher, I am now aware that my experiential knowledge as part of the NIPT has given me the “basis for the story that I am able to tell” (Glesne & Peskin, 1992, p. 104). Many have argued that the researcher’s experience is not something to consider as bias to the research but should be explored for the potential insights it can give. It should also be examined critically so as not to “suppress our primary experience; nor do we allow ourselves to be swept away and overwhelmed by it” (Reason, 1988, p. 12). I am aware that, in having dealt with so many NQTs and mentors, much of my knowledge of the induction process, and the new model for induction and probation has been informed by

my experience of it first-hand. This can only add to my reading and analysis of the policy in the area.

Argyris, Argyris, Putnam and Smith (1985) argue that the researcher must be aware of the lens by which they observe the research problem and the research questions. The research problem that I first perceived was the impact a new model of induction and probation might have on collegiality. I felt as though the way in which an inspector might observe an NQT for the purposes of traditional probation must be different to an observation conducted by a colleague. This was my basis for telling my story. Induction can be part of school-based practice but it needs space to allow for the nuances of collegial relations and professional partnerships within schools. As a result of acknowledging and including my own experiential knowledge within this study, there will be elements written in the first person as I will be discussing my role and acknowledging my perspective and input into the process at hand.

Existing Theory and Research.

In creating and constructing a conceptual framework, one should use existing theories or research for two reasons, as proffered by Maxwell (2005); as a place to ‘hang’ data “showing their relationship to other data” (p. 43) and as a spotlight that “draws your attention to particular events or phenomena, and sheds light on relationships that might otherwise go unnoticed or misunderstood” (p. 43). Theories here are defined, as per LeCompte and Preissle (1993), as “the cognitive process of discovering or manipulating abstract categories and the relationships among these categories” (p. 239). These theories are presented in the existing literature and research of the previous chapter.

Agency was theorised within the context of co-teaching in the previous chapter and has also been considered in this chapter in terms of the researcher’s theoretical perspective.

It is significant to mention it again in this section as it is a concept which is highlighted throughout the findings. Agency is developed along with the identity and participation of each teacher. It is not a concept which is static or stable but moves in conjunction with one's experience and participation in a community of practice and the changes to one's identity, described by Burns and Bell (2011) as a continuum that is changed and rearranged through interactions. Agency and the other theories; identity, dynamics of power and participation in a community of practice, whose interlinkage with the theory of agency have already been described here, will be central existing theories within which to 'hang' the data from this study.

Pilot Interviews – Language of Uncertainty.

A set of pilot interviews were conducted and will be discussed in this chapter. The language was predominantly negative and a reluctance to assimilate to a new model of induction and probation was noted during the pilot interviews. Having probed these issues of uncertainty, misinformation, and negativity during the pilot, it became apparent that the role of collegiality and collaboration was a highly significant facet of the research study. This reflects Maxwell's (2005) view that pilot studies in qualitative research develop the researcher's "understanding of the concepts and theories held by the people you are studying" (p. 59).

Quality Assurance to Data Collection

Generalisability in Qualitative Research.

Schofield (2007) comments, when considering the generalisability of qualitative research, that the researcher should put the "emphasis on supplying a substantial amount of information about the entity studied and the setting in which that entity is found" (p. 187). Schofield (2007) also proffers that multi-site studies may potentially increase the

generalisability of qualitative work; there are four sites being targeted for this study, which should aid in gathering data that could be generalizable. Cohen et al. (2011) suggest considering qualitative research and its generalisability as “working hypotheses” (p. 243) and ideas that are works in progress. Indeed, the ‘working hypothesis’ of co-teaching as a professional pedagogy at induction level, could be further progressed based on the data and analysis of the research here, which is specific to only one facet of teacher education, but nonetheless could be transferred to, and generalised, for other types of teacher educators.

Validity and Trustworthiness - Triangulation and Multiple Tools.

The critical inquiry stance illuminates and accepts, as a basic assumption, that facts, relationships, social and cultural practices, and so on, are all invariably linked and affect the research process (Crotty, 1998, p. 158). Therefore, for the research to explore the depth and breadth of the research question, it was imperative to utilise multiple tools of data collection. Hemming (2008) suggested that “each method allowed for the co-production and active construction of data in slightly different ways” (p. 160) and it is these slight variations that allow the critical inquiry to explore the elements that lead to the data being created. Dewey (1929) noted that all data is saturated with the personal experience or the ‘lived experience’ of the participant and to explore these experiences multiple tools were used to collect data in various forms by this researcher. A single method approach, ultimately, would have portrayed a narrow vista on the complexity of the research question (Cohen et al., 2011, p. 195).

The researcher used a range of data collection tools to strengthen confidence in the data analysis and interpretation, and to demonstrate that the researcher “[had] not simply plumped for the first explanation that fits” (Denscombe, 2003, p. 274). Lin (1976) raised concerns of the possibility of data to be a product generated by the method used in the

research process. The idea of triangulation is a means to offer confidence to the researcher and the readers in the findings of the research. Furthermore, if the data and findings are replicated in methods that differ greatly then the greater the confidence the researcher can have in the findings (Cohen et al., 2011; Lin, 1976). Data collections methods such as observations and reflective journals, as in this instance, differ greatly and can to the validity and trustworthiness of findings here.

Validity and Trustworthiness - Role of the Researcher Prolonged Engagement with the Research Participants.

Trustworthiness can be amplified through prolonged engagement with the research participants and can “further establish validity” (Given, 2008, p. 691) from continual and multiple encounters with the participants. It also affords the researcher with the opportunity to collect data and analyse it simultaneously, allowing the participants to acknowledge if the analysis is an adequate version of their experiences (Given, 2008).

The researcher engaged with the research participants for one full school year and throughout the induction process for each NQT. Participants met with the researcher multiple times; in their own schools as a group and individually, as well as in a whole group setting in the Education Centre. This continued and sustained engagement with the participants will add to the trustworthiness of the study (Creswell and Miller, 2000).

3.6.4 Validity and Trustworthiness - Research Audit Trail.

A research audit trail delineates the process of events and actions within the study regarding data collection and analysis (Akkerman, Admiral, Brekelmans & Oost, 2006; Hoepfl, 1997; Koch, 2006). As a researcher, one is constantly aware that “maintaining and reporting an audit trail of methodological and analytic decisions allows others to assess the significance of the research” (Rice & Ezzy, 2000, p. 36) and so endeavoured to use the

audit trail outlined by Lincoln and Guba (1985). It consists of six steps in the data collection process to be identified as an audit trail: raw data, data reduction and analysis notes, data reconstruction and synthesis products, process notes, materials related to intentions and dispositions, and preliminary development information.

These six steps were included in the thematic analysis of the data, adapted from Braun and Clarke (2009), and outlined in Table 3 in the section dealing with data analysis. Thematic analysis completed by the researcher, aided by computer software, created an audit trail as a clear series of events (Khalil, 2013) of how the data was handled and analysed, which aids rigour or trustworthiness to the study. The use of computer-assisted qualitative data analysis software, Nvivo (QSR International Pty Ltd. Version 10, 2014), aided the management and documentation of the research process. Sinkovics and Alfoldi (2012) argue that the use of such software “enable the production of robust and defensible qualitative research” (p. 828) through creating audit trails

Validity and Trustworthiness - Peer Review.

To limit any suggestion of researcher bias, a peer review or debrief is an element that can attest to the trustworthiness of a piece of qualitative research (Creswell and Miller, 2000; Lincoln and Guba 1985). In this study, the researcher’s peers were two-fold, a set of critical friends and the research participants, as co-collaborators. The inclusion of three critical friends added to the validity and trustworthiness, specifically. One was a seconded member of the NIPT, who had also worked as a primary school teacher and a teacher educator. The second was principal of a primary school and had worked in the DES Inspectorate. The third was a primary school teacher who works in an ITE setting. Throughout the process, each of the members was included in the debriefing with the researcher and giving critical feedback at all points. The process of debriefing allowed the researcher to engage with the data gathered in another format, by presenting it to the

critical friends. These debriefing sessions extended the researcher's problematising and personal critical reflection on the theorisation and processes of CAR, as well as the data collected. This was done by means of the critical friends supplementing the researcher's reflections with probing questions; to seek clarification from the researcher, understand circumstances, explore the connections between theory and data gathered and so forth. In particular, they were involved in the analysis of data, being party to the categorising and generation of themes, as outlined in data analysis processes. The critical friends discussed these elements with the researcher on three instances throughout the cycles of CAR. During these discussions the critical friends, having been presented with the researcher's reflections, data, themes generated or rationale for data reduction, offered suggestions to the researcher pertaining to the process of examination, reminding the researcher of the probing questions which had been previously asked and scaffolding the researcher's critical reflection of the entire process in this way. The participants also reviewed and agreed upon field notes made during group meetings, reflected on their own interview responses, and were available for member checking throughout the data analysis process.

Ethical Concerns

Ethical issues, according to Punch (2005), evolve from discussions about codes of conduct, ethical dilemmas, and their solutions. A researcher must assess any and all potential risks that could arise for participants engaged in a study, to minimise the potential for any harm (be those risks of physical, psychological, social or legal nature) and must submit a report to an institutional review board for appraisal (Sieber, 1998).

Ethical issues, risks, and risk management have been highlighted in the research ethics protocol document, which was submitted to the institutional review board. Ethical requirements were met and approval was granted from the university DCU, via the

Research Ethics Committee of St Patrick's College, Drumcondra. Issues of agency were noted by the researcher as an ethical concern. The power imbalance in the relationship between researcher and participant and between NQT and mentors were identified as areas that could cause distress to the participants. Holloway and Jefferson (2009) suggest creating and fostering an environment of understanding and respect and to frame the issues of power differences positively. This went some way to dealing with power differentials in the relationships but could not fully balance the power in such complex relationships.

The researcher's role within the NIPT was considered in the same light as Bullough's (1989) case study on the beginning year of teaching. Bullough (1989) considered the impact of the researcher having knowledge or information that could be passed onto the beginning teacher to aid with teaching and learning. He questioned the ethical dilemma as to give or withhold such information. The researcher decided that there was an ethical responsibility to support, not only the NQTs in the process, but also the mentors. However, this role should be backgrounded and the decision was made not to participate in any official NIPT role as mentor, associate, or workshop facilitator with any of the participants.

Information regarding the nature of the study as an exploration of the induction process was portrayed to all mentors, the NQT(s), and principals of schools who expressed an interest in participating in the study. The model of CAR was explained, as was the rationale for its selection for this study. The information provided was given in a broad sense. The purpose of the study was to explore co-teaching during the induction process and thus the opportunity was made available for the participants to frame, discuss, and engage with the topic in their own dynamics.

Each participant was given time to consider whether or not to engage in the study and was supplied with a Plain Language Statement (Appendix A) and an Informed Consent Form (Appendix B). The participants ultimately signed the Informed Consent Form, having decided to participate in the study. Each participant was made fully aware of the right to withdraw from the process at any point and that they could, subsequently, have all data pertaining to their involvement removed from the data set.

Participants were made aware of every effort that was made in respect of confidentiality around all data and participant-information. As outlined in their Informed Consent Form, raw data was stored securely and in line with the requirements of ethical standards and the institutional review board, with access to this raw data only available to the researcher. However, confidentiality and anonymity cannot be fully guaranteed when the size of the sample, their attributes, and the perimeters of the Education Centre network were considered.

Participants were made aware that every effort would be taken to provide them with confidentiality and anonymity, but that this could not be guaranteed. Pseudonyms were used to conceal their identities, and detailed analysis of pertinent information about their schools would be conducted by the researcher before inclusion in the final report so as to minimise the recognition of any school. It is a researcher's prerogative to provide and maintain the anonymity of the participants so that they may supply unconstrained and voluntary data (Bodgan and Bilken, 1992).

Sampling

Sample.

The sample is a non-probability purposive “sample ‘hand-picked’ for the research” (Denscombe, 2003, p. 15). Mentors and NQTs who had trained in or were working in Navan Education Centre were approached directly, as well as contacting principals of local primary schools. In this way, research participants were ‘hand-picked’. Also, to encourage participation and volunteers, the researcher highlighted the study to members of the NIPT. Marshall and Rossman (2006) suggest that “at times, the best entry is one [...] when there is an insider who provides sponsorship and helps the researcher” (p. 75). A purposive sample provides greater depth for the study but, as Cohen, Manion and Morrison (2011) state, it does not give as much breadth to the study as probability sampling would. This study, however, needed to access the knowledge and experience of those undergoing the induction and probation process in that academic year and this importance of accessing those people was of greater importance to the study (Ball, 1990).

Figure 5, below, outlines the four school types and the number and type of participant from each. There were two large, urban, junior schools; one single sex and the other a mixed DEIS school. The DEIS school had three NQTs and one newly trained mentor. The single sex school was participating in the *Droichead* pilot and had one mentor and NQT participating in this study. There was a small rural school, with one NQT and one mentor in a resource setting. The fourth school was a special school, with two NQTs working a buddy system for induction; one of the NQTs had just completed their probation and was paired with a NQT who was to undergo probation. All schools arranged for class release time locally to facilitate the induction process and this study as best suited their schools.

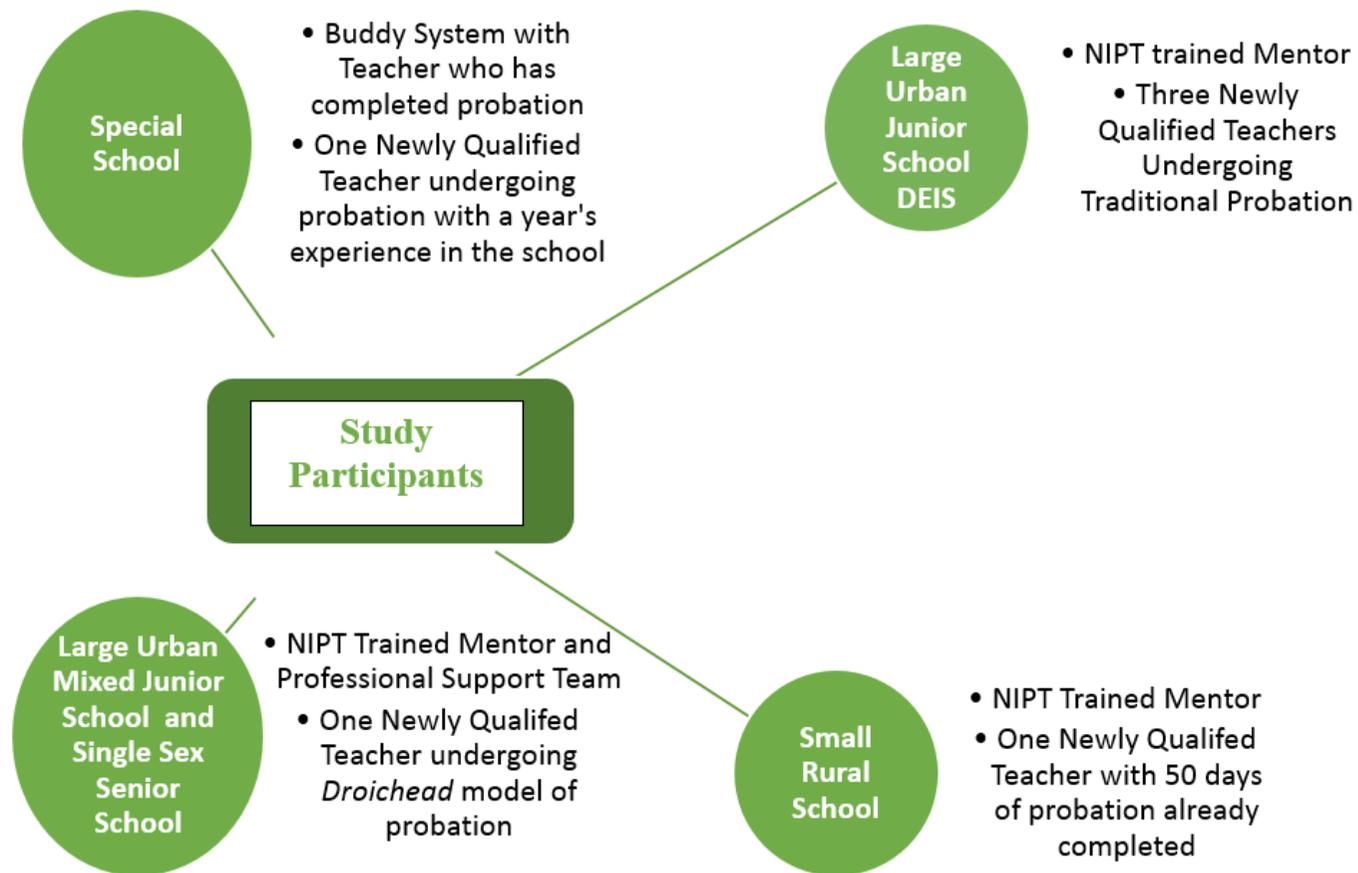


Figure 5. Study Participants and School Types.

Context of Research Study.

Navan Education Centre was the location chosen as this site, therefore offering a variety of school settings from which to choose participants. The researcher contacted the director of Navan Education Centre and school principals to ascertain which schools had a trained NIPT mentor, or a teacher acting as a mentor, as well as NQTs undergoing probation, either by the traditional process or through the *Droichead* Pilot.

Role of the Researcher.

Marshall and Rossman (2006) suggest that, when considering the role of the researchers within qualitative research, the ideas of “*participantness* – that is, the degree of actual participation” (p. 72), “*revealedness* or the extent to which participants know that there is a research study going on” (p. 73) and “*intensiveness* and *extensiveness* – that is, the amount of time spent daily in the setting and the duration of the research study” (p. 73) are paramount in planning this role. With regards to participation, the researcher here maintained the position of observer, facilitator, and collaborator for the most part, allowing the research participants to dialogue and generate dialogue without being influenced by the researcher. In this study, the researcher has chosen not to be “a member of the group” (p. 232) of research participants, in a bid to limit the influence of the researchers’ own views and biases. This stance to remain close but detached from the research participants reflects the researcher’s worldview, as outlined in the previous section. In this instance, the researcher strived to be minimally intrusive and spend only the amount of time with the participants at each site necessary for ideas and themes to be generated. The researcher was with each group of participants for an intensive but not an extensive amount of time; periodic in school meetings, which consisted of half a school day and CAR cycle meetings every four weeks, which were on average two hours long. The researcher endeavoured to

allow the participants to generate discussions based on stimulus questions initially, and then reflections on the cycles during group meetings. The stimulus questions were carefully considered and constructed so as not to represent the ideas and ideals of the researcher but to give agency to the participants, giving them an opportunity to allow their thoughts on the topics to emerge from the discussion.

Data Collection Tools

Four data collection tools were used in this study: semi-structured interviews, observations of co-teaching, reflective journals, and field notes of CAR meetings. Each will be dealt with in turn, highlighting the reasons for choosing them and how they were applied to CAR. Table 3 presents each data tool and the number of instances that data was collected via each tool at each cycle of CAR.

Table 3. Numbers of the Types of Data Collected During the Research

Data Collection	Pre-CAR Cycles	Cycle One	Cycle Two	Cycle Three	Cycle Four	Cycle Five	On Concluding CAR Cycles
Semi – Structured Interviews (Approx. 30-50 minute duration)	12* Two pilot interviews						10
Observations (One Hour Duration)		4	3	3	4	2	
Reflective Journals (Completed by Individual Participants)		10	10	10	10	10	10
Field Notes at CAR Meetings (Meetings Approx. Two Hours Duration)		1	1	1	1	1	1

Semi-Structured Interviews.

Semi-structured interviews were conducted in this study for both mentors and NQTs prior to commencement of CAR and on completion of the final cycle of the action research (Appendix C, Appendix D, and Appendix E). This enabled the researcher to ask the participants about specific items focusing on research aims and questions, as earlier identified. Conducting interviews in this manner gave greater flexibility to the researcher to explore elements of the research aims, as was most suited to each interview setting, and also allowed the participants the opportunity to elaborate and expand upon their own answers, ideas, and thoughts (May, 1997). Before conducting the interviews, the researcher was cognisant of the importance of, not only the questions and topics to be asked during the interview, but also the way in which the questions would be asked and the tone and personality of the interviewer. Fontana and Frey (1994) warn that the “the answers we, as researchers, will get will be commensurable with the questions we ask and with the way we ask them” (p. 374). Therefore, the researcher was aware that the data gathered would be, to some extent, influenced by the evolving researcher-participant relationship (Glesne & Peshkin, 1992). Every opportunity was made to keep “enough distance to allow the participant to fashion his or her responses as independently as possible” (Seidman, 2005, p. 96).

The researcher met each school’s set of participants during school hours to conduct the initial interview and to discuss ethical measures for the study prior to the first group meeting. Prior to beginning the interviews, principals made local arrangements for supervision and the participants were given a hard copy of the informed consent form (Appendix B); they were reminded of their right to withdraw from the process at any point and issues of confidentiality and anonymity were highlighted, in line with college ethics guidelines. Following this, the interviews were conducted. All were audio-recorded with

permission and handwritten notes were made following the conclusion of the interview so as not to impede the participants while speaking.

The interview protocol was similar for both mentors and NQTs of interviews comprising open-ended questions. An interview schedule (Appendix D and Appendix E) was developed to explore the topics of co-teaching, induction processes both traditional and pilot models, roles within the schools, and expectations of the induction process. Additionally, the NQTs were also asked during their initial interview to share their academic speciality from ITE; this was to ascertain an area of knowledge-of-practice and knowledge-in-practice (Shulman 2005a), where they had ‘expertise’ that would be used as part of the co-teaching during the CAR cycles. The questions were open-ended to encourage participants to share their personal understanding of the new process and not to suppress any ideas they might have shared by using more direct closed answer questions (Mishler, 1986). The final interview allowed the individual to discuss and expand on the issues, on any thoughts that had arisen during the process, either those noted in their reflective journals, or as part of the practice, and professional conversations that arose from the implementation of the CAR cycles during the induction process. This often led the participants to explore their own practice, with emphasis on the areas they imbued with most importance through the telling of their story; as Bauer (1996) phrased it “...narrations are rich in indexical statements” (p. 3). It is through the telling of the story that we often understand the subject more accurately (Hollway & Jefferson, 2009). The final interview also asked the participants to reflect or respond to their replies from their initial interview and to comment on any change they noted for themselves.

Piloting process. In an endeavour to pilot the core questions and topics for the interview, an initial draft of the semi-structured interview was piloted. Two teachers in a large, rural school participated in a piloted version of the interview; the teachers were an NIPT trained mentor and an NQT who was undergoing the traditional route of induction with support from that mentor. This pilot highlighted to the researcher the topics and issues that were individually and collectively of importance to both mentor and NQT prior to undertaking the year long journey of traditional induction. Teachers feared that it would be unfair for a principal to ‘assess’ the NQT on a classroom observation; though this is not the model for assessment in *Droichead* “which is defined as an integrated induction framework which is based on a whole school approach in supporting newly qualified teachers’ professional learning” (Teaching Council, 2018, p.1). The issue of time to meet and discuss induction activities was also raised during pilot interviews. Additionally, the teachers were concerned about the use of required hours outside class-contact hours, previously mentioned in the literature review. Teachers were not aware that flexibility was being made to include induction activities as part of those hours and as an element of the professional development requirements for Teaching Council registration for NQTs.

The pilot allowed the researcher the opportunity to develop and hone the skill of interviewing; creating a space where the participant was comfortable enough to engage with the topics and reflect on their own experiences and stories in a genuine way, without being overly comfortable or uncomfortable with the interviewer.

It was not possible to pilot the semi-structured interview in full. The nature of the study was that of an exploratory one; the questions could not have been definitively predetermined prior to undertaking the cycles of CAR, as the issues and topics that would be subject to discussion at interview had not yet evolved.

Observations.

Semi-structured observations were conducted in each school. The researcher observed co-planning, co-assessing, and co-teaching at various cycles of the CAR process with different sets of participants. Murawski and Lochner's (2011) checklist of observable behaviours and activities for co-teaching in inclusive education practices (Appendix F) was used as a basis for observing co-teaching in practice. As the cycles of CAR progressed, some of the participants produced their own observation schedules for co-teaching (Appendix G) and shared these with the group during the reflection stage of the second CAR cycle. Following a group discussion, some of the participants chose to use this as part of schedule for observation whilst being observed by the researcher.

The observations allowed the researcher to note how the participants react to the co-teaching experiences and tasks first hand (Goffman, 1989) and to consolidate the data collected from the reflective journals. Additionally, the observations were used to identify common issues, strategies, and behaviours across all sets of participants whilst they engaged in co-teaching as displayed in Table 4. The table shows a sample of the observations made during a cycle of CAR, the participants involved and the type of co-teaching that was observed.

Table 4. Details of Observations during Second CAR Cycle.

Date	School Type	Participants Involved	Model of Co-teaching used
10 th November 2015	Urban, DEIS, Large, Junior	Bríd and Megan Bríd and Conor Bríd and Jane	Station teaching *this model already in use frequently in Jane's class
19 th November 2015	Small, Rural	Patricia and Éilis	Station Teaching – they have expressed that they will be trying other models prior to the next CAR meeting if time permits.
19 th November 2015	Special School	Mary and Peter	Station Teaching Note: not present for the co-taught lesson to limit stress on classes.
20 th November 2015	Large Urban School – participating in <i>Droichead</i>	Cáit and Kim	Station Teaching – Kim had arranged for an additional learning support teacher to co-plan the lesson with them prior to co-teaching.

In this way, the observations furthered and added to the conversations and reviews that took place at each of the group meetings, the external collaborator could allude to models and approaches used by the participants during those observations. The analysis of the themes emerging from the observations and reflective journals aided the researcher and research participants to identify and indicate what the next cycle of CAR would focus on.

Observations of practice were accommodated in and facilitated by all schools in much the same way as interviews were, with permission from the Boards of Management for the researcher to be in classes where pupils were present. The researcher did not make any observations on the pupils but observed the professional relationship between co-teachers instead. A schedule for observing co-teaching was designed and maintained during the observations (Appendix H). In the special school, the researcher did not observe

the co-taught segment of any of the co-teaching conducted, as it was felt that the presence of an unknown adult in the room would cause undue stress and upset for some of the pupils in those classes.

Reflective Journals.

The study required the participants to enact change and monitor and review the action and changes made independently of the researcher. Reflective journals (Appendix I and Appendix J) were used to collect the data that emerged in school while engaging in a cycle of CAR. The reflective journal was designed to respond to the four levels of reflection, as defined by Larrivee (2004) as pre-reflection, surface reflection, pedagogical reflection, and critical reflection. A pre-reflective teacher, as defined by Larrivee (2004), has not yet participated in taking ownership of problems in their educational environment; the reflective journal allowed for the participants to take note of any factors that they felt were detrimental to the process. Participants were also given an option to make surface level reflections about the task at hand and what they felt ‘worked’; these reflections are sometimes referred to as descriptive reflections (Jay & Johnson, 2002). Larrivee (2008) suggests that, during pedagogical reflection, teachers are trying to connect their own practice with theoretical principles and approaches. She proffers that teachers at this level of reflection are at a “high level of reflection based on application of teaching knowledge, theory and/or research” (p. 343). The final reflection, critical reflection, engages the teachers with moral and ethical issues and consequences arising from their own practices, along with self-reflection (Larrivee, 2005), which examines belief and values, cultural and family assumptions and ideas that may affect pupil and teacher learning. The participants were tasked during the group meetings with assessing and recognising problems and issues and the acceptance of uncertainty (Dewey, 1933, 1938) as the beginning of reflective thinking. Brookfield’s (1995) lenses for critical reflection and elements for fostering

critically reflective practice were also shared during CAR cycle meetings and there was discussion on how these reflections were recognised, of benefit and amalgamated into practice.

The participants chose to input into the reflective journals by hand; though both digital and hard copies were provided. Each participant received a reflective journal, with mentors receiving a slightly altered version to that of the NQTs; the focus for the latter was on beginning teaching experience, whereas the former focused on learning the role of teacher educator in the guise of mentor.

Field Notes of CAR Meetings.

Notes were recorded by the researcher at each of the group meetings. These notes included the reflections, discussion topics, and actions agreed by the group as a focus for the next cycle of CAR. The meetings of the participants and researcher afforded the participants time to discuss, deconstruct, and review the information and experiences that they had gathered during a CAR cycle. These meetings created the template for the next action to be taken by the participants and these actions were agreed upon by the group. The meetings also scaffolded the critically reflective process, and was an opportunity to discuss topics of pedagogy, induction, co-teaching as an activity etc. All of these were noted and recorded by the researcher during the meetings and recorded in a manner similar to the taking of minutes at a meeting.

The meetings of the entire participant group were all held in the evening in the Education Centre with closest proximity to all participants. At the first meeting, the reflective journal was distributed. The participants also engaged in lengthy informal conversations following all meetings. Audio recordings of the researcher's notes on each meeting were made following the conclusion of each meeting.

Data Analysis

The process of data analysis adopted by this study is based on the principles of thematic analysis (Braun & Clarke, 2006). Thematic analysis is a method for identifying and analysing patterns in qualitative data. Since 1970s when first identified as an approach to data analysis (Merton, 1975), a number of different variations of thematic analysis have been proposed (Aronson, 1994; Attride-Stirling, 2001; Boyatzis, 1998; Joffe & Yardley, 2004; Tuckett, 2005). However, it is that of Braun and Clarke (2006) which was used for the analysis of the data collected in this study. They identify it as solely an analytic method, emphasising the flexibility of thematic analysis unlike some authors who, in contrast, define thematic analysis as a phenomenological method (Guest, MacQueen & Namey, 2012; Joffe, 2011) which most other qualitative approaches are. The flexibility of Braun and Clarke's (2006) approach towards thematic analysis extends from their consideration of the search and study of patterns and patterning across language does not necessarily have to align itself with "any particular theory of language, or explanatory meaning framework for human beings, experiences or practices" (Clarke & Braun, 2013, p. 121). Thus, the application of thematic analysis can occur in any number and range of theoretical perspectives, in the case of this study critical inquiry. Thematic analysis is suited to a wide range of research questions, "from those about people's experiences or understandings to those about the representation and construction of particular phenomena in particular context" (Clarke & Braun, 2013, p. 122). It can be used in the analysis of many different types of data, it is applicable to large or small data-sets, and it can be applied to produce data-driven or theory-driven analyses (Clarke & Braun, 2013). In this way, it is suited to the study here, as it deals with research questions that focus on the impact of construction of co-teaching as a pedagogy of teacher education at induction level in the Irish context, and the impact of such on the experience of mentors and NQTs, in

terms of their professional relationships. Additionally, the data were collected from various data collection tools from a small data set. Finally, the analysis was conducted so as to be data-driven.

Inquiry focused data, having been generated freely through open-ended questions during semi structured interviews, and participants' own personal responses to experiences at group meetings or in reflective journals were analysed, nevertheless, using a systematic approach. The data were coded using an inductive reasoning approach, as opposed to predefined categorisation; that is data were categorised based on meaning and relationships derived through the process itself. Thematic analysis, in this way, produces the articulated perspectives, which themselves seek to explain or describe the social processes under examination.

This method involves breaking down the data into discrete units (Lincoln & Guba, 1985) and coding these into categories. Categories arising, generally, are those that are generated from the participants and those that the researcher deems significant to the study's inquiry. Lincoln and Guba (1985) note that the first category established the participants' own experience and how they construct their own world view, whereas the latter is developed by the research and leads to "both descriptive and explanatory categories" (Lincoln & Guba, 1985, p. 341). The data and categories are subject to revision as the process continues, and an understanding of the categories, their comparisons, and relationships, is refined. During this process, the researcher "simultaneously codes and analyses data in order to develop concepts; by continually comparing specific incidents in the data, the researcher refines these concepts, identifies their properties, explores their relationships to one another, and integrates them into a coherent explanatory model" (Taylor & Bogdan, 1984, p. 126).

The six phase process of data analysis, as outlined by Braun and Clarke (2006), is illustrated and annotated below in Table 5. Each phase is identified and the process involved noted. The process is not intended to be a linear one, but rather one within which the researcher can revisit any of the six phases, as the analysis is a recursive process (Clarke & Braun, 2013). The first phase involved the transcribing of data and the reading and re-reading of data in order for the researcher to become familiar with the data. Initial coding is generated in the second phase, which involved deconstructing the data from its original chronology into an initial set of non-hierarchical codes. Phase three involved merging, renaming, distilling and clustering related codes into broader categories of codes to reconstruct the data into a framework to further the analysis; this process is detailed in Appendix L. In the fourth phase, the themes were reviewed by deconstructing the reorganised codes into sub-codes to better understand the deep meanings in each code. The fifth phase, which can be seen in Appendix M, was the conceptual mapping and collapsing of categories into a broader thematic framework to prepare for the final phase, which is the writing up of the data analysis findings (Meehan, 2014).

Table 5 highlights the links between each phase and importantly the audit trail created by using computed assisted qualitative data analysis software, NVivo. Sections of the analytical process are presented in Appendix N, to show the systematic review of the process, the links to the literature, and the description of missing context of face-to-face data collection.

Table 5. Analytic Process (adapted from Braun and Clarke, 2008)

Analytical Process (Braun & Clarke, 2006).	Practical Application in Nvivo with Data from the Study	Strategic Objective	Iterative process
1. <u>Familiarising yourself with the data</u>	Transcribing data from interviews, reading and re-reading observations, field notes and reflective journals, noting down initial ideas. Import data into the Nvivo data management tool	Data Management <i>(Open and hierarchical coding through Nvivo)</i>	Assigning data to refined concepts to portray meaning 
2. <u>Generating initial codes:</u>	Phase 2 – Open Coding- Coding interesting features of the data in a systematic fashion across the entire data set, collecting data relevant to each code		Refining and distilling more abstract concepts 
3. <u>Searching for themes:</u>	Categorisation of Codes – Collating codes into potential themes, gathering all data relevant to each potential theme	Descriptive Accounts <i>(Reordering, 'coding on' and annotating through Nvivo)</i>	Assigning data to themes/concepts to portray meaning 
4. <u>Reviewing themes:</u>	Coding on - 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		Assigning meaning 
5. <u>Defining and naming themes:</u>	Data Reduction - On-going analysis to refine the specifics of each theme, and the overall story [storylines] the analysis tells, generating clear definitions and names for each theme	Explanatory Accounts <i>(Extrapolating deeper meaning, drafting summary statements and analytical memos through Nvivo)</i>	Generating themes and concepts 
6. <u>Producing the report</u>	Writing Up - 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		

Kelle and Laurie (1995) suggest that computer assisted qualitative data analysis is beneficial to both validity and trustworthiness through the management and retrieval of the data. Nvivo (QSR International Pty Ltd. Version 10, 2014) was utilised as a tool in the process of data analysis in this study. Nvivo software supported the researcher to stay fully in control of the data analysis process; a key requirement of qualitative researchers as mentioned by Fielding, Lee and Lee (1998), whilst simultaneously creating an audit trail that can illustrate the complexity of the task undertaken by the researcher. Seidel (1991) expresses concern that using software in the analysis process may "guide" researchers in a particular vein. Others, who have concerns that researchers may be distanced from the data, encourage quantitative analysis of qualitative data, and to create a homogeneity in methods used in qualitative research (Hinchliffe, Crang, Reimer & Hudson, 1997). Although there could be limitations to using Nvivo to aid the analysis process, García-Horta and Guerra-Ramos (2009) advocate a "responsible and reflective use" (p. 164) of such software, as is outlined in the iterative analytical process above.

Assembly and Analysis of Evidence leading to Development of a Model

As described in the previous chapter, data assembly and analysis were facilitated by the use of Nvivo software. The process of thematic data analysis has been explored in Table 5. In addition to this, Figure 6 is a flowchart which outlines the way in which data were distilled from first order concepts to second order concepts and how these finally came together as themes which were then presented here. Having gathered the data in Nvivo and generating initial coding with opening coding, the researcher created several categories in an initial analysis of the data, these can be seen in Appendix L. These categories were reviewed, as mentioned in the previous chapter, to better understand the deep meaning in each code. This led the researcher to develop themes of 'Co-teaching as Professional Learning', 'Co-teaching as Relationship Building' and 'Creative Responses to

Challenges'. These themes contained sub-themes which are displayed in the codebook in Appendix M.

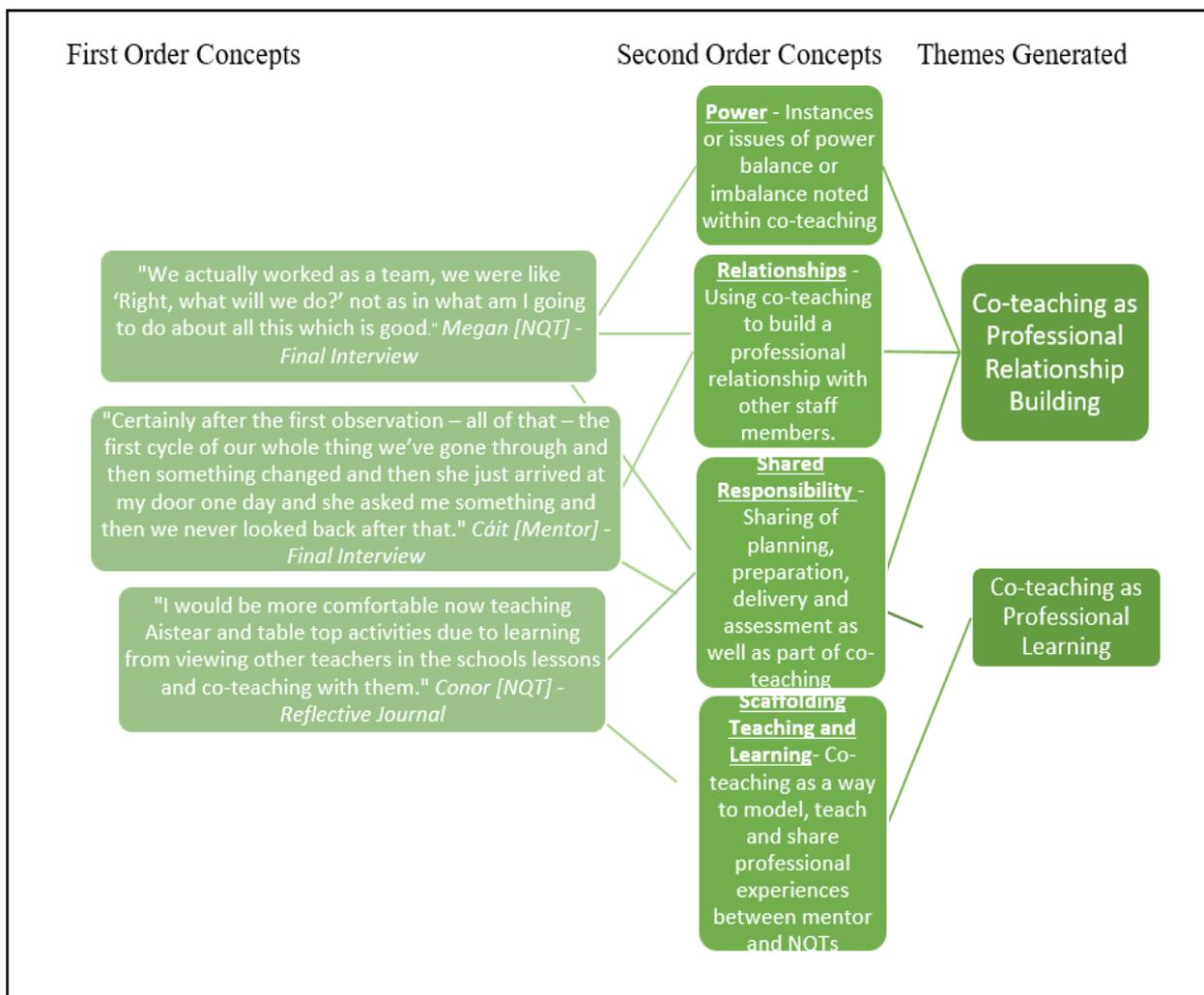


Figure 6. Depiction of the Steps of Coding, Categories and Theme Development.

The central themes of professional learning, professional relationship building and the creative ways participants began to engage with the process at hand could be identified throughout the data through a process of inductive coding. These themes were found across the responses to the process of co-teaching and also developed in tandem with the cycles of CAR. Many iterations of a structure to represent these themes, their findings and the linkage between the impact of the various models of co-teaching and of CAR (Appendix

K) were created. The researcher utilised critical friends, as discussed in the previous chapter, to debrief and present various representations, chapter structures and models. This was done until such a time as the data being presented illustrated the impact of the content and the process on the data generated.

Throughout this process the subtheme of ‘Children’s Learning’ (Appendix M), though referenced in the data gathered many times was omitted. This was decided as the data itself was not generated from a tool developed for the purpose of exploring the learning of children but rather it was the perceptions, response and impressions from the teachers as to the impact of the process on the children. The data pertaining to children shows the focus of the participants on the learning of the pupils and the impact of their own actions on their classrooms. As these were the perceptions of the participants about the children’s learning and no facility was in place to gather data specifically about the impact on the children’s learning it was decided not to include this subtheme in this chapter.

Finally, having generated and considered each of the themes and subthemes through inductive open coding and the thematic analysis outlined in the previous chapter, the connections were deliberated amongst these themes to each other, the methodology and literature and a model was developed. The researcher endeavoured to structure these findings after the coding so as to avoid pre-ordained themes which could have arisen if the model had been developed before the data were analysed. The model which is presented here (Figure 7) was used to structure the findings chapter, to show how the data were linked to all stages of the process and the themes of co-teaching for teacher learning, co-teaching as professional relationship building and creative responses to challenges were interlinked in many places.

Summary

The theoretical perspectives of constructionism and critical inquiry, which underpin the design of the study, were examined, along with how this stance aligned itself to the adoption of CAR. The cyclical nature of reflection and action were highlighted, in both the theoretical perspective of the researcher and in the methodology of CAR. The significance of critical inquiry for engaging the participants in a change of culture through action was compounded with the use of CAR and the data collected was imbued with trustworthiness through the engagement of a multiple tools for data collection.

Chapter Four: Findings

Chapter Organisation

This chapter will begin by presenting the model for the development of professional learning and professional relationships through co-teaching with CAR, which emerged from the data. Phase One of this model will be used to present the findings in relation to the anticipation for the professional relationship, how co-teaching and issues of agency present in the joint enterprise, and the beginnings of mutual engagement. The transitional process of CAR and the external community of practice will be examined, as will its role in developing professional learning and professional relationships. Following this, the fourth section will examine how the concepts of joint enterprise and mutual engagement have potentially been altered through engagement with the model for the development of professional learning and professional relationships through co-teaching with CAR. The development of a shared repertoire of participants will also be examined in the same section. The focus of the analysis will then consider the benefits and implications to the actors; mentors, NQTs, and the external collaborator. The final section will then present the elements of the data that suggest the consideration of co-teaching as a pedagogy of teacher education outside of ITE, along with the analysis of the model presented here within a professional development framework for analysis.

Model for the Development of Professional Learning and Professional Relationships through Co-teaching with CAR. The model which emerged from the analysis of the data and in line with the conceptual framework for the study has three phases: Phase One ‘Beginning a Professional Relationship’, Phase Two Building a Professional Relationship’, and Phase Three ‘Maintaining a Professional Relationship’. The model consisted of two communities of practice, one at school level, and an external

community of practice, of which all participants were members; both were facilitated and scaffolded by the researcher as external collaborator. Below, Figure 7 depicts three phases of professional relationship growth, as reflected by the process and data analysed, the role of co-teaching models, and the processes of CAR. The model was an emergent one that was developed throughout the data analysis process. This process involved two models: a model for professional learning within many cycles of CAR, all of which were not displayed on the final model but representative of the cyclical nature of CAR, and a model for professional relationship building through the development of co-teaching partnerships. These two processes were incorporated into the model presented below; the two emergent models are presented in the appendices (Appendix K).

Phase One ‘Beginning a Professional Relationship’ pertains to the initial stages of a professional relationship. Although the co-teaching partners had their own perceptions of how the professional relationship might develop, they had to engage in the act of co-teaching models of Phase One; ‘one teach, one observe’ and ‘one teach, one assist’, to have a firm basis on which to begin to co-reflect on their professional relationship.

CAR created a focused structure within which the participants were enabled to co-reflect on the first phase of their relationship in an open forum. This reflection, inherent in CAR, happened on an individual, co-teaching pairing, and whole group level within the external community of practice. From this point of co-reflection, which was facilitated by the researcher, participants were enabled to continue into Phase Two ‘Building a Professional Relationship’, where they co-taught using the models of parallel and station teaching. These models required greater co-planning and developed the communication between partners, as described in the literature review.

Phase Two was again followed by co-reflection and the other elements of CAR within the external community of practice, before progressing to Phase Three ‘Maintaining a Professional Relationship’. This phase saw the participants aspiring to develop and maintain the models of co-teaching previously used within the process and perhaps adding ‘alternative teaching’ and ‘teaming’. The addition of ‘teaming’ occurred where the professional relationships between the co-teaching partners had developed trust, communication, and respect to such a degree that they could engage in a co-teaching model of teaming.

For co-teaching professional relationships, the contexts that they develop within can have significant impacts. Here, the concept of context, not only includes the physical school context, but also personal contexts, the impact of management and school leadership, classroom dynamics, and teaching styles and practices. Thus, the cyclical nature of the model, including specifically the process of CAR and co-reflection, means that the co-teaching professional relationships that existed in Phase Two had to take cognisance of the context within which this relationship took place. Thus, some professional relationships may proceed to the Phase Three co-teaching methods, whereas other professional relationships will focus on maintaining and honing the relationship as it stands within Phase Two. All participants in this study engaged in all aspects of Phase Three.

Professional relationship building through the modus of CAR and co-reflection also facilitated co-teaching partners to come to the realisation of when they were ready to move from one phase to another in response to their context and efforts within the model. It is important to note here that the model presented does not display a doubled headed arrow, indicating a route back and forth between Phase One and the transitional processes of CAR and co-reflection. As identified in the literature review, ‘one teach, one assist’ and ‘one

teach, one observe' can serve to diminish the agency of the co-teaching partner not involved in the act of teaching. As will be discussed, Phase One has many important elements that form the basis of the professional relationship and professional learning inherent in the process. It is argued here that, once co-teaching partners have undergone Phase One of this model, it is deemed unnecessary to revisit this stage.

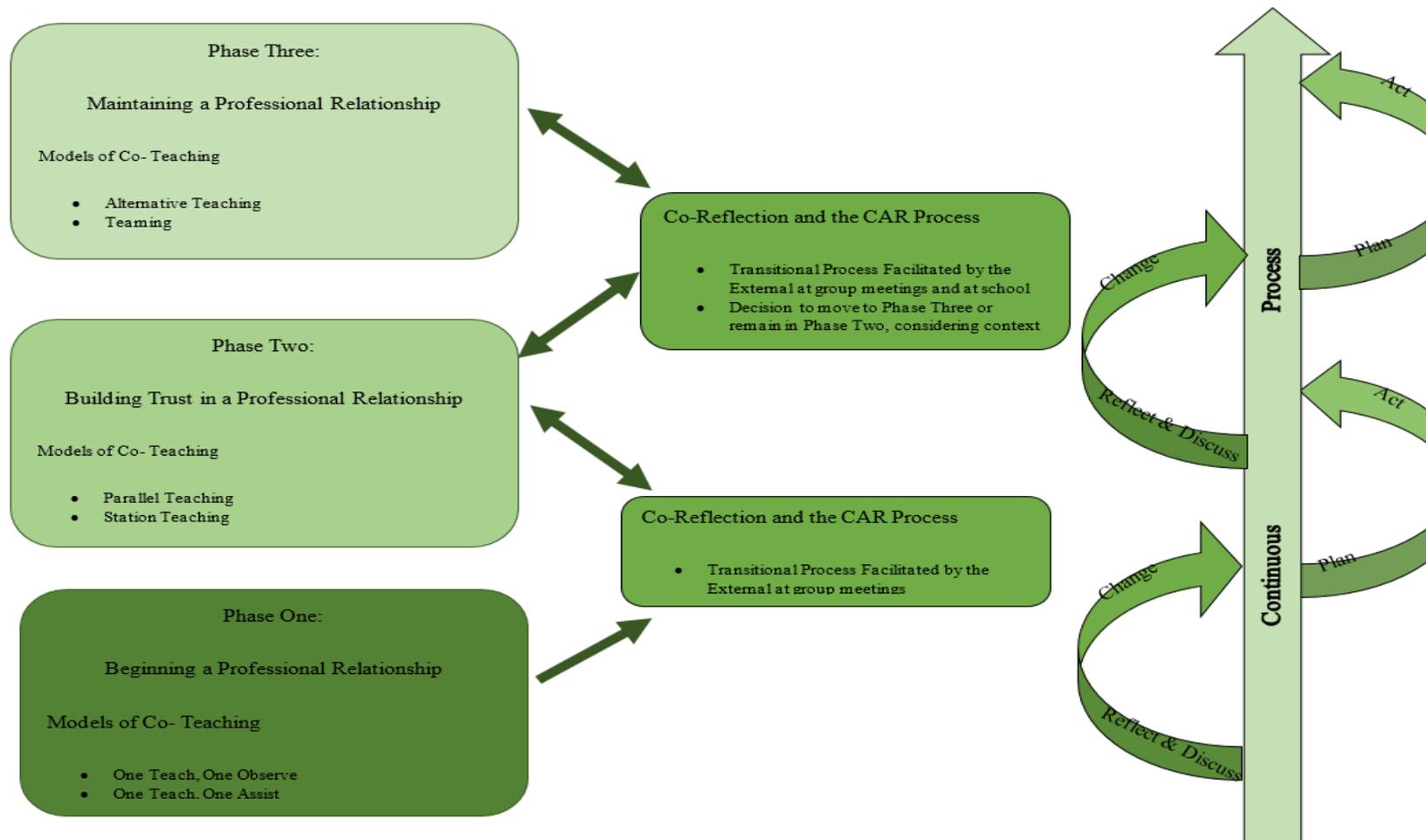


Figure 7. Model for the Development of Professional Learning and Professional Relationships through Co-teaching with CAR.

Beginning of the Professional Relationship

Anticipation of the Professional Relationship.

This section will briefly consider the findings from the data analysis, which reveal what the participants considered the professional relationship between mentor and NQT might entail. When presenting findings from the phases of the building and maintaining of the professional relationship in the model, this will serve as a basis as to how these perceptions were solidified or dismissed by the participants. The perspectives of each participant types will be dealt with separately.

The perspective of NQTs. Prior to the participation in the CAR cycles, the participants were interviewed by means of a semi-structured interview schedule. This focused on what the participants' views were, on ideas relating to induction, teaching, and co-teaching and allowed them to identify the areas they were looking forward in the induction process, as well as their causes for concern or areas of challenge. The interview gave them an opportunity to express their expectations for their professional relationships as mentors and NQTs. Analysis of the data showed that there was a disposition amongst all of the NQTs to feel that their mentors were a source of knowledge and experience, whom they expected to guide them through their induction year. Figure 8 depicts the distribution of ideas about the anticipated role NQTs felt that a mentor would take during their induction from the data gathered in their first interview.

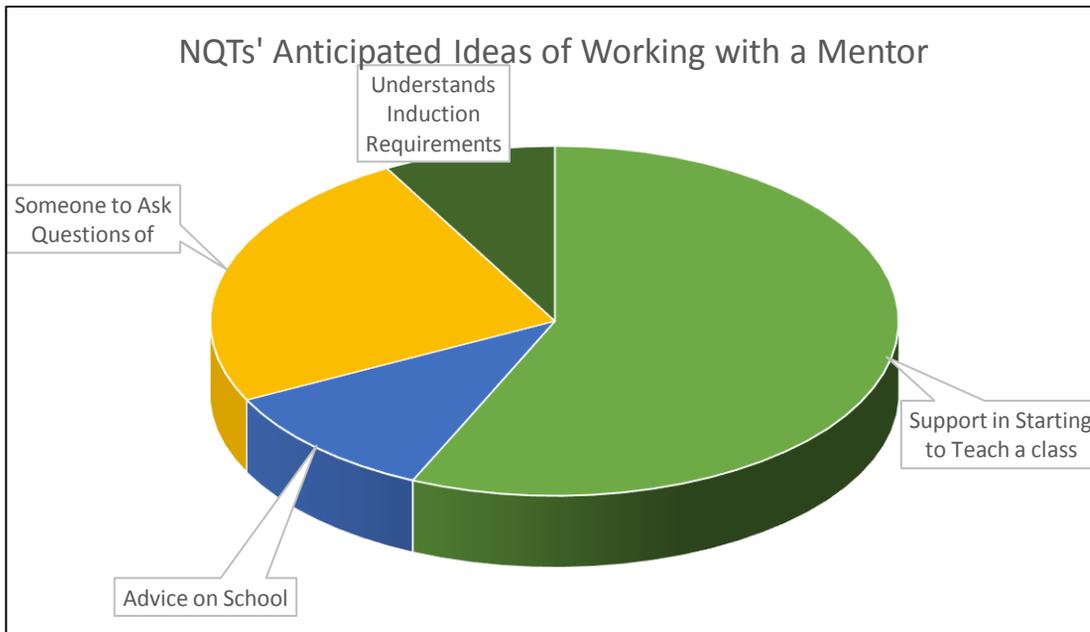


Figure 8. Visual of the Ideas from NQTs of a Mentor during Induction.

The NQTs were asked specifically during their first interviews, prior to CAR cycles, about their expectations and the anticipated role of a mentor during their induction. The data above reveals that NQTs were anticipating a mentor who would be able to impart information about teaching, the school context and induction to them. As is evident from Figure 8 NQTs stated strongly in their interviews that they expected to have a mentor who would offer them advice that they could then put into practice in their classes. Megan [NQT] explored this idea of hoping to have a mentor to offer expert opinions on problems she might encounter:

If I was having a problem I could turn to the mentor and they would be able to tell me what to do and then I kind of follow through on that because [...] I feel that they are more expert than me and that I can learn more from them.

Megan, Initial interview.

The NQT reflects the evidence gathered amongst the participant NQTs in their initial interviews; that the mentor would be an experienced teacher who could support them through a difficult or challenging time because of their role. This finding concurs with the already acknowledged

expectation of NQTs of their relationship with their mentor. Bleach (2013) notes that NQTs need guidance and support and “look for time and advice to enable them to engage in evaluation and reflection about their classroom practices” (p. 104) in their relationships with their mentor.

The perspective of mentors. In the literature review, the idea of commitment to the concept of co-teaching and fostering a professional relationship was discussed as central to an effective co-teaching partnership (Armbruster & Howe, 1985; Gelzheiser & Meyers, 1990; Redditt, 1991). To foster the participants’ understanding of, and engagement with co-teaching, the CAR meetings focused on Friend (2006) and the visual representation of six co-teaching models. Each of these models was discussed in detail by the participants and researcher. All of the mentors felt strongly about beginning the process with observation; this is the first of the six models presented. Cáit [Mentor] described how the process of co-teaching should not happen in isolation but needed to have elements of observation so that the mentor can have a better understanding of the NQT as a teacher and the challenges that they face and but also that the NQT observe the mentor for the same reason:

I have observed my NQT on a number of occasions and she has observed me. We have discussed and reflected on the observations. We discussed areas of challenge and we are now going to be co-teaching one of the subject areas.

Cáit, Initial Interview.

The interpretation of the data here suggests that Cáit [Mentor] intuitively knew the value of building a relationship step by step and with equal participation. The participants did engage in Phase One in ‘one teach, one observe’ and ‘one teach, one assist’ as an important basis of understanding each other’s teaching styles, challenges in class and professional practices and preferences. To begin to foster these professional relationships, it was imperative to begin with observing and assisting. As discussed in the literature review, however, ‘one teach, one observe/assist’ cannot sustain an equal partnership and often leaves one teacher feeling like a “glorified teaching assistant” (Cook & Friend,

1995, p. 8). Although this model is an important first step into co-teaching with a colleague, co-teaching partners must move forward from this model in order to further a professional relationship. It was the researcher who had to act as the external collaborator to further the relationship by challenging the mentors' training of observing to also begin to engage in class as co-teaching partners; this was a departure from their expected role in the induction process in the Irish context.

Co-teaching and Joint Enterprise: Issues of Agency.

The concept of joint enterprise, as an element of communities of practice, has been outlined in the literature review. Within Phase One of this study, the participants' joint enterprise, or shared understanding, created by the interactions of the school-based community of practice of the mentor and NQT(s), focused primarily on the act of co-teaching. This was due to the process of co-teaching with CAR having begun at school level, as a school based community of practice, and without the co-reflections and CAR processes that take place within the external community of practice. Without the participation in the external community of practice's discussions and reflections, which could foster understanding and meaning, the participants concerned themselves with the task of co-teaching. An important finding arising from the data analysed at this stage of the study, the act of co-teaching, as co-planning, co-teaching and co-assessment of a lesson, was one that gave little agency to a mentor as co-teaching partner in the role of assistant or observer. Their identity as teacher educator and collaborator developed through the building of joint enterprise and learning how to build their professional relationships through their participation in the community of practice. The evidence here will display how the NQTs maintained their agency over elements of practice within the community of practice which allowed for mutual recognition (Wenger, 1998) but only a small amount of collaboration occurred at this beginning stage of participation in the community of practice and the cycles of CAR.

Murphy and Beggs (2010) suggest that an issue that can arise when a mentor is mentoring an NQT is a situation that can “serve to diminish the agency of the [NQT] and make the latter feel as though they were being judged” (p. 20). Their finding supports the theory of dynamics of power identified earlier, where the ‘newcomer’ may have legitimate peripheral participation due to the powerful position of the ‘old timers’ within a community of practice. This was identified as a potential imbalance of agency within these relationships in the literature review. Significantly, the analysis of data from the NQTs as ‘newcomers’ and mentors as ‘old timers’ suggests, that as opposed to Murphy and Beggs’ (2010) proposition, all of the mentors in this study started by having little agency in the planning of the co-taught lessons. Cáit [Mentor] sees her role as supporting the lesson and that the NQT would lead the lesson. In her reflective journal, she delineated how co-teaching activities were planned and then taught by sharing the responsibilities at their meeting prior to the co-taught lesson:

We decided to divide the groups up in the hall as my class would be joining Kim’s [NQT] class and we thought it would be better to integrate them. [...] We also decided that Kim would lead the lesson and I would support. This was all documented at our meeting [planning meeting prior to lesson].

Cáit, Reflective Journal, Cycle One

Cáit [Mentor] and Kim [NQT] shared the workload, the teaching and used each other to support professional conversations on their teaching. Kim’s reflective journal entry for this same lesson reflected that of her mentor’s:

We picked Athletics as the strand we would be planning for. I picked the main objectives [...] I planned the lesson that evening and then we met again the following day.

Kim, Reflective Journal, Cycle One.

This same inclination for NQTs to have agency over the planning of the lessons in the initial phase of the co-teaching relationship is noted across the all the participants' reflective journals, and not solely with Kim [NQT] and her mentor.

It could be argued here that the NQTs had agency over the co-teaching, as the co-teaching partners had yet to build on the trust and communication necessary for effective co-teaching relationships (Bauwens & Hourcade, 1995; Pugach & Johnson, 1995) and the NQTs had authority within their own classrooms over that of the mentor. Arguably, the findings here suggest that when co-teaching with a mentor, NQTs have the agency to empower themselves through lesson planning and in the practice, aims, and methodologies they impose upon the mentors. This reflects Lave and Wenger's (1991) theory involving dynamics of power; that 'newcomers' to a group have the potential power to influence the community of practice knowledge base. The evidence analysed here is contrary to that of Bacharach, Heck and Dahlberg (2010) and Murphy and Beggs (2010), it is the mentor who needs to be empowered to find parity within the beginning professional co-teaching relationship. However, as they began to co-plan for their next cycle of co-teaching, the participants were engaged in reflecting on this initial cycle by the researcher. This was fostered through the CAR process and further when the school based community of practice joined with the external community of practice. Thus, evidence suggests that without the development of trust, respect and communication at this phase, and in the absence of the external community of practice, the joint enterprise of beginning to co-teach in Phase One does not scaffold equal agency for both mentor and NQT. The concepts of co-reflection and external communities of practice will be discussed in detail in the section on CAR and co-reflection.

Co-teaching and the Beginning of Mutual Engagement: Issue of agency, collaboration and shared responsibility within the act of co-teaching.

The changing of the professional relationship, from a single teacher planning or teaching, was not the sole area that would be impacted upon by the co-teaching relationships. There was greater parity in the act of co-teaching for both mentors and NQTs. Evidence suggests that, although the joint enterprise in Phase One may not have been one of equal agency the area of mutual engagement saw parity in some instances. Mutual engagement, as outlined in the literature review, considers the collaboration and shared responsibility towards the learning and engagement of each member of a community of practice. The fluidity of any lesson allowed for opportunities for mutual engagement to emerge within the school based communities of practice. NQTs shared the responsibility of classroom management with the mentors in the initial stages of their professional relationships. Kim's [NQT] reflective journal analysis shows how her professional relationship developed around behaviour and classroom management and her confidence to accept help from her mentor during a lesson:

...In today's lesson Cáit [Mentor] suggested we give a reward to all the children that participated. We gave a sticker to all the children. This one boy did not get his sticker. Cáit and I decided that I needed to use an [alternative set of] incentives with this child.

Kim, Reflective Journal, Cycle Two.

Kim's focus on behaviour management for a particular boy was scaffolded by the mentor. Kim focused on the role of the mentor in co-teaching as sharing the responsibility of deciding how to deal with his behaviour and manage it as she framed the decision as belonging to both of them. In the literature review, Bacharach, Heck and Dahlberg (2010) and Murphy and Beggs (2010) suggest empowering the 'novice' teachers in their work, to bring parity to the professional relationships, and that this could be accomplished by teaching a novice teacher to cultivate their own voice within the professional relationship. It could be reasonably contended that the active and immediate nature of teaching created an opportunity for mutual engagement, to increase the agency of the mentor to

impart ideas and strategies to the NQT in the beginning phase of their relationships in order to open communication. Their participation within the community of practice has led them both to develop their identity, as teacher educators and as co-teachers, through their learning experiences in the settings created by this study. The mentor has been given the opportunity to share with the NQT examples of good practice in a setting where the NQT has maintained his/her agency over the teaching of the lesson and the class.

The mentors in this study did not reflect the expectations of Murphy and Beggs (2010) and an analysis of evidence from the initial interviews suggests that the mentors did not have an agenda to judge or to diminish the agency of the NQTs with their own professional status. Berry's (2007) suggestion that teacher educators begin with a tendency to want to share their practices for 'novice' teachers to replicate, was also not evident in the analysis of data in this study. Figure 9 is a chart of the data analysed from the mentors' initial interviews regarding their thoughts and expectations in relation to their role as mentor. The figure shows that the comments made by the mentors in these interviews were of a collaborative, collegial nature. There is reference made to sharing their good practice and experience, however these comments are not as prevalent as comments made about the mentors' opportunities to learn from the NQTs. Mentors did speak about the traditional process of probation and the role of the DES Inspectorate. It is clear from the figure that the mentors felt from the beginning that this was a joint process of sharing, learning and supporting.

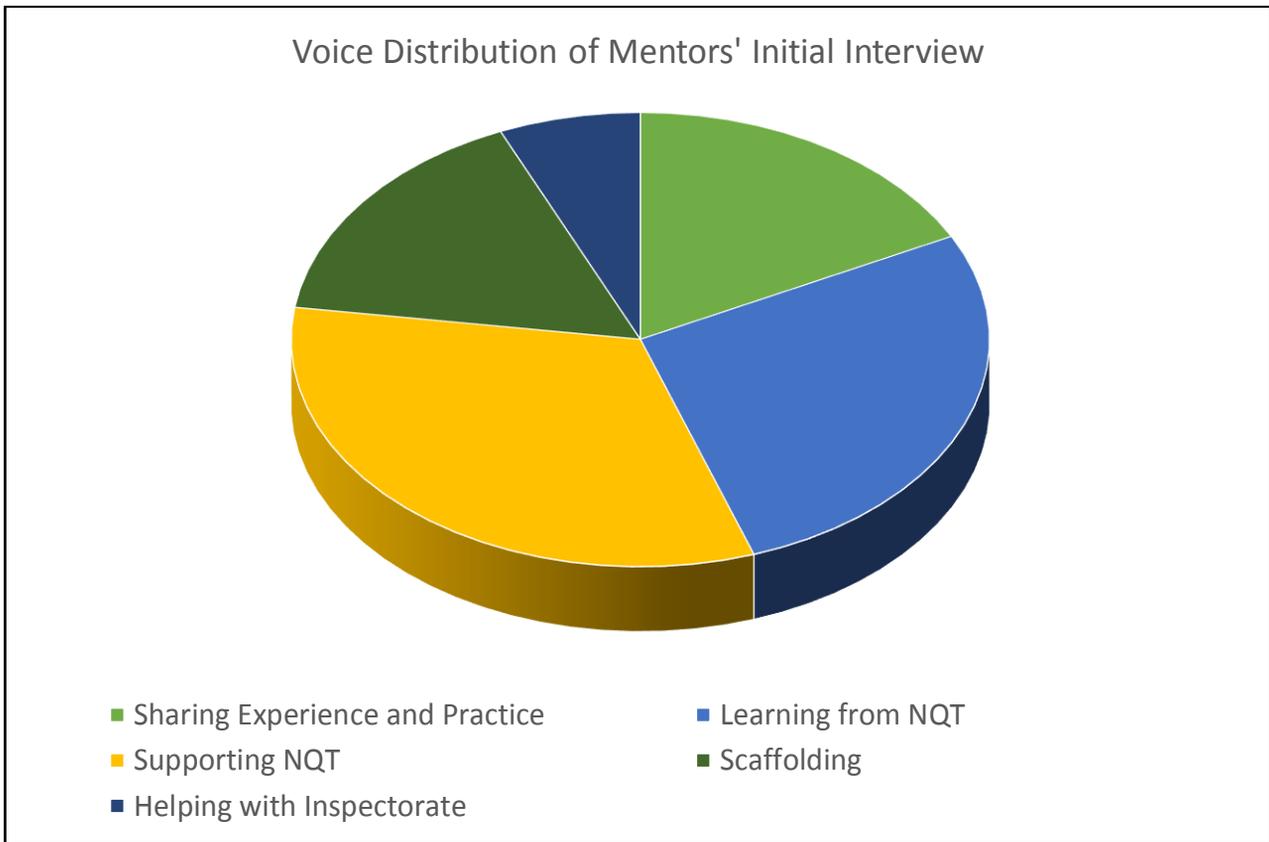


Figure 9. Voice Distribution of Mentors' Initial Interview.

The analysis here of the mentors' initial interviews would imply that mentors, although willing to share their experience and good practice, were hesitant for NQTs to think they would be able to answer every question their NQTs had, or solve every issue that arose for them; rather, they would support and learn from the NQT. Patricia [Mentor], who had completed her initial mentor training in the summer previous to beginning to mentor, felt she had been given the information needed to mentor the NQT and expressed her anticipation to learn from the NQT:

I feel I have the information needed to be able to mentor and facilitate an NQT and help them to develop and mature as a teacher [...] I am also really looking forward to learning new ideas and methods from a student just out of college.

Patricia, Initial Interview.

Patricia [Mentor]'s quote above shows her hope to learn from the process of induction and from the NQTs that they would work with, and each mentor mentions this in their initial interviews. Each mentor hoped to facilitate and support their NQTs in the process and not prescribe classroom practices to them, as is illustrated in Patricia's quote. This finding fits into the concept of mutual engagement as a commitment to the learning happening within the school based community of practice, rather than assimilating Berry's position that the mentors would impose their agency over the NQTs and insist upon the adoption of the mentors' styles and practices.

CAR and External Community of Practice

The external community of practice was formed when all of the participants and the researcher joined for the purposes of co-reflection on the action undertaken at school level, to discuss the experiences and reflections, and to decide on the next steps of action to be taken. The joint enterprise comprised primarily of co-reflection and happened in an open forum, where the mutual engagement of the members of the external community of practice fostered critical reflective practices. This led to a shared repertoire, which could be applied within school-based communities of practice, or outside of a community of practice, and which created a heightened awareness of their needs and creative response to those needs.

Shared Repertoire: Co-Reflections, the External Collaborator and Identifying Needs.

As the participants' co-reflection, professional relationships, and ownership of the process grew, they developed an understanding of their needs and roles within the community of practice. They also began to identify their skills and knowledge attained in the external community of practice that could be put to use in other settings.

Co-reflection, CAR and an external collaborator. CAR, as outlined in the methodology chapter, facilitated collaboration amongst sets of co-teaching partners but also with the researcher as a

collaborator external to the practice of co-teaching. Undoubtedly, the main actors within the process for developing professional relationships were the co-teaching partners themselves. However, the findings here show the central role and importance of the external collaborator. The changing of each relationship was facilitated through co-reflection and the CAR process, particularly the CAR cycle meetings, by the external collaborator. The external collaborator enabled and furthered their joint enterprise and, as such, became an element of shared repertoire, for the creation, maintenance, and reinforcement of the external community of practice. These findings relating to the external collaborator's pivotal role in facilitating the reflective practices of NQTs and mentors, could hugely impact the way in which the role of Associate for the NIPT might act within the induction process and support schools, NQTs and mentors during their induction journeys.

The professional relationships developed and grew as a result of the participation in the CAR cycles and by working through each of Friend's (2014) models of co-teaching in turn. These were scaffolded by the researcher in this study, who collaborated with the participants, chaired the CAR cycle meetings, and facilitated professional conversations in schools, which enabled the participants to reflect on each phase and model of the process. Having discussed these reflections, they continued on a path of shared action that was agreed upon by all teachers involved in the action. The researcher focused each set of co-teaching partners to agree the aim of their co-teaching at the end of each CAR cycle meeting; evidence of this was given previously in this chapter, by asking each set to identify the model of co-teaching they would be engaging with for the next cycle. This enabled them to choose a path that reflected the nature of their professional relationship. As mentioned in the literature review; communication, trust and respect and collaborative problem-solving are elements of co-teaching relationships (Bauwens & Hourcade, 1995; Pugach & Johnson, 1995). One could contend that the researcher, as an external collaborator, enabled the participants to attend to each of these elements in a structured way, with co-teaching models presented and discussed at CAR cycle meetings.

Additionally, CAR cycles, as structured by the researcher, were a framework from which to build and reflect upon the professional relationships and co-teaching (Appendix P) during the CAR cycle meetings. Within these CAR cycles, the researcher observed the co-teaching partners co-plan, co-teach, and co-assess lessons, following the first phase of professional relationship building, Table 4, as discussed in the previous chapter identifies, the school type, participants, model of co-teaching and date that the researcher observed in schools during the second cycle of CAR. The observation schedules in Appendix H were used to collect the data during each visit to co-teaching partners. By observing actions of co-teaching during the cycle, the external collaborator could engage with the co-reflections of participants at the external community of practice. It is posited that through sharing the observations checklists (Murawski & Lochner, 2011), the researcher completed, and through engaging the participants in completing the 'Questions for Creating a Collaborative Working Relationship in Co-Teaching' (Cook & Friend, 1995), the researcher strengthened the co-reflection taking place amongst the co-teaching pairings. Table 6, below, depicts a sample of the documents shared by the external collaborator, and some participants, and how these were added to by the participants.

Table 6. Sample of resources shared in external community of practice

Cycle	Resources Shared	By Whom	Reference or Source
1	Introduction to co-teaching video (0.00 – 1.25 minutes) Co-teaching Models	External Collaborator	Dr Rebecca Stobaugh of Western Kentucky University https://www.youtube.com/watch?v=bRVFuKcjN8w Friend, M. (2014). <i>Co-Teach: Building and sustaining effective classroom partnerships in inclusive schools</i> (2nd edition). Greensboro, NC: Marilyn Friend, Inc.
2	Questions for Creating a Collaborative Working Relationship in Co-Teaching. Team Teaching Review	External Collaborator Participant	Cook, L., & Friend, M. (1995). <i>Co-teaching: Guidelines for creating effective practices. Focus on Exceptional Children</i> , 28(3), 1–16. http://ppds.pdst.ie/images/stories/EAL/team%20teaching%20review%20final..pdf
3	Co-teaching Checklist Journey of Team Teaching for Literacy (video)	External Collaborator Participant	Murawski, W. W., & Lochner, W. W. (2011). Observing co-teaching: What to ask for, look for, and listen for. <i>Intervention in School and Clinic</i> , 46(3), 174-183. http://www.pdst.ie/Learning-Support
4	Co-teaching: Strategies to Improve Student Outcomes	External Collaborator	Friend, M. (2014). <i>Co-teaching: Strategies to Improve Student Outcomes</i> [Pamphlet]. Port Chester, New York: National Professional Resources Incorporated
5	Intro to Marilyn Friend’s Co-Teaching Models: The Big Picture by Teaching2gether	Participant	http://www.teaching2gethertexas.com/uploads/4/5/2/9/45296987/introtoco-teachingapproaches thebigpicture.pdf

In addition to digital or print resources, such as the above, open-ended questions and discussion topics were raised by the external collaborator as part of the researcher’s role as

collaborator in CAR methodology. In turn, these led to the creation of a shared repertoire of the community of practice through the participation of the members of the community, which in turn impacts on agency as discussed by Lave and Wenger (1998).

Identifying needs through co-reflection. A key finding in the data analysis was that participants identified needs within the system to facilitate and incorporate the use of school-based induction whilst utilising the model outlined in this study. Identifying these needs fostered the ability to move forward in the CAR process and address what was needed to maintain and reinforce the community of practice, and is proffered here as an element of this community's shared repertoire. Although they managed to address the issues of time and staffing as best as they could for the study, without further support from management in schools and at national level, this process could not be implemented successfully. Participants have identified areas for further research on system pressures as part of their co-reflections and discussions at the external community of practice.

Time was a major issue for all participants; finding time to facilitate the minor day-to-day elements of induction was a difficulty. The consensus at the final CAR cycle meeting was that the meetings between NQTs and their mentors needed to be frequent but brief. Prior to the final cycle meeting Jane [NQT] had already alluded in her final interview to her idea of the allocation of time, thirty minutes per week, which she deemed necessary to facilitate the process of induction and the CAR and co-teaching model included in that process:

...a system in place where a co-teacher who is teaching at senior level meets on a regular basis [with the NQT] like every week, if that just happens anyway for 30 minutes. This is the best scenario for induction.

Jane, Final Interview.

Having been present at the CAR final meeting where Jane tabled this idea, her reason for the meetings to be regular and brief was so that nothing was left unsaid and all items were open for

reflection and discussion. The other participants noted at CAR cycle meetings that this was already happening outside of many classrooms, but the idea that it be catered for within the school day would be more conducive to co-teaching as an induction platform for teaching and learning. It is suggested that more frequent meetings might enable the co-teaching partners to reach each phase of the professional relationship building model at an increased pace. This could possibly then allow greater time to critically reflect on their co-teaching and allow them to challenge and develop their skills and knowledge of co-planning, co-teaching, and co-assessment, as well as those of co-reflection and CAR.

It is argued here that if a mentor and an NQT have been able to cultivate a professional relationship through the model identified in this study, and have had sufficient time to do so, then the participants could begin the process again with other co-teaching partners and create a teacher learning community within their school. As described by Lave and Wenger (1991), teachers who engage in collegial learning over an extended period of time, which involves a critical reflection of their classroom practices, as well as practitioner research, not only engage in effective professional development, but can also be the catalyst for educational transformation in creating and expanding communities of practice. Therefore, it is important to note that this model could become a catalyst for educational transformation in the induction process in the Irish context. Mentors and NQTs could begin to develop communities of practice, where co-teachers share their learning and collaborate on teaching various class levels, strategies and approaches, practices and styles regarding planning or assessment through the use of the model presented here and begin to have a transformative impact on teacher education processes in Ireland.

Mutual Engagement: Shared Responsibility and Collaboration.

Responsibility towards each other's learning and collaboration across schools was fundamental to the participants' engagement in the community of practice. The researcher, as external collaborator, chaired the meetings, asked prompt questions i.e., those from the reflective journal or referring to events that had happened while on school observation visits to scaffold the discussion, or shared pieces of literature on the topics being discussed (See Table 6 for a list of resources). It is proffered here that through their mutual engagement and scaffolding by the external collaborator, the participants developed professional relationships across schools. This section will draw from the evidence that participants forged these important relationships across school settings through participation at CAR cycle meetings. Forging professional relationships as part of co-teaching within induction, and reflecting on the needs and demands of a colleague's class or of a school at large, was a shared responsibility for the participants working at school level. The needs and experiences of other schools and their responses to shared responsibility, co-teaching, and induction were a large portion of the CAR meetings' proceedings. The dynamic collaboration, shared responsibility, and mutual engagement across schools and co-teaching pairings were a significant element of these professional relationships, at both school-based communities of practice and the external community of practice. Participants, not only created and built upon a single professional relationship, but created professional relationships within the CAR cycles among the other participants.

The NIPT currently facilitate a suite of workshops for NQTs, as outlined in the literature review. The workshops have several important functions and are central to the NIPT process of induction. The NIPT (2016) state that the functions of their induction programme workshops are:

- To afford NQTs an opportunity to engage in professional dialogue with other NQTs on topics pertinent to everyday classroom practice [...]
- To foster professional relationships with other NQTs [...]

- To share learning experiences and encourage reflective practice

NIPT (2016)

Unlike the current induction provision for professional reflection and professional learning to be directed towards NQTs, this study included the experienced teachers in this process also. All participants were provided with the opportunity to engage, not only with other NQTs, but with other experienced teachers in professional dialogue, sharing learning experiences and reflective practices from the varied school settings presented in this process. The role of professional relationships and the platform to foster and build these within this study, as well as the opportunity to share and reflect on professional practice, was the foundation upon which the professional learning in this process was built. Participants shared their experiences and reflections at each of the CAR cycle meetings, as well as at school level co-reflection. This led to much collaboration and sharing of resources, practices and ideas across school settings, years of experience, and professional practices. Findings from the CAR cycle meeting field notes show that participants were cognisant of the value of other perspectives when problem solving or discussing various topics at the CAR cycle meetings:

Bríd [Mentor] and Cáit [Mentor] shared the comments that because they are in a large school it's far easier for them to move around in the co-teaching role [...] Bríd acknowledged that Patricia[Mentor] does teach in a small school where it would be much harder for the school to facilitate a teacher floating around. And people discussed at length how *Droichead* might really work locally in your school day-to-day...

Field Notes, CAR Meeting Three.

Bríd and Cáit both concurred in their beliefs that a larger school enabled them to work in a co-teaching role with greater ease, presumably due to the size of the staff, as Bríd acknowledges that this would be a harder task in a small school like Patricia's. The group then continued to discuss how they might facilitate *Droichead* in their own schools, following on from this acknowledgement from Bríd. This section of data from the third cycle of CAR is representative of several conversations held at

later stages of the study, of the participants becoming cognisant of their responsibility towards the external community of practice. One could argue that this mutual engagement shows that through their participation in the community of practice they became aware of how other schools might differ from their own and begin to consider how others may implement certain practices in various contexts. It could be argued further that, as they began to co-reflect, they also began to modify their own perceptions of other contexts and models in light of this, to help facilitate the learning of others.

The participants were also very aware of their shared responsibility to each other's learning to become effective co-teachers, and the following finding suggests this to the researcher. This finding shows how one pairing of participants shared a tool for assessing co-teaching they had found useful in their work with the group:

Éilis [NQT] and Patricia [Mentor] shared a little co-teaching observation checklist that they had found belonging to the PDST.

Field Notes, CAR Meeting Two.

This also suggests to the researcher that, not only were Patricia [Mentor] and Éilis [NQT] clearly discussing their effectiveness as co-teachers and co-reflecting on their co-teaching, but that they also wished to collaborate with the other participants in becoming effective co-teachers.

The CAR cycle meetings became a community of practice, with co-teaching at its core. As previously highlighted in the literature review, when co-teaching does happen within a community of practice, there must be ample opportunities to collaborate with others, equal access to professional development, and sustained support from administration (Karpen, 2015). The participants are shown in these findings to be collaborating with others from their own co-teaching pairing, but also across pairings within the professional development model. Teachers who are involved in a community of practice and who work in co-taught classrooms may increase their knowledge of collaborative

practice through professional conversations and, additionally, through sustained, meaningful engagement in collaborative activities (Musanti & Pence, 2010; Pella, 2011) such as the CAR process presented here. The participants' mutual engagement scaffolded them to share their reflections and practices, not only within the remit of this CAR study, but also to share the vast scope of their professional practices to explore and collaborate with one another. The analysis is that this is how a group of teachers might conduct themselves within a model of professional development that is transformative in nature, as described by Kennedy (2005), and discussed in the literature review, and have a mutual engagement with the community of practice and develop their identity and agency. This continued professional discussion has an element of reflection on previous practices and a sharing of learning for all of those involved, which reflects the aims of the NIPT workshops, as previously outlined.

Joint Enterprise and The CAR process: Learning to Co-Reflect.

To facilitate the processes of developing their professional relationships and professional learning, participants were shown Friend's (2014) six models of co-teaching and afforded the time and space to reflect on each of their co-teaching activities as part of CAR. CAR cycles have embedded fora that allowed the participants to share their reflections during the CAR cycle meetings; they also co-reflected on how the models of co-teaching had worked for each co-teaching pairing. The external collaborator facilitated this with open-ended questions pertaining to the elements of co-teaching; co-planning, co-assessing and the act of co-teaching, examples of these are in Appendix P. Appendix P also outlines the rationale of the researcher for posing prompts and where applicable the sources of these prompts are referenced, if not generated, by the researcher herself. Additionally, participants were continuing their individual reflective journaling throughout the cycles, a process that was again facilitated by the structure of the reflective journals. As the cycles progressed, the participants had the opportunity to reflect personally and they could then discuss the process at the

external community of practice. This encouraged clear communication amongst the participants and fostered speaking explicitly about the focus of co-teaching and their learning at that time and thus became their joint enterprise at the external community of practice.

CAR created a process by which the participants had to engage at regular intervals with structured reflection and discussion on actions that had been taken. These reflections, discussions and sharing of the same at CAR cycle meetings were utilised by the group to structure their goals as co-teaching partners. That is to say, during CAR meetings, the participants would agree on the model of co-teaching that they intended exploring and implementing during a CAR cycle. These actions were discussed as a group but each co-teaching pairing had the autonomy to choose the model that suited their own relationships best:

Éilis [NQT] and Patricia [Mentor] have actually decided to teach again a Maths lesson, but this time maybe they might co-teach it in stations or split the class in half. [...] everybody else seems quite happy to move ahead before Christmas except for Mary [NQT] and Peter [NQT] who would like to wait until after Christmas.

Field Notes, CAR Meeting Two.

The above section from the second CAR cycle meeting shows how Éilis [NQT] and Patricia [Mentor] reflected on their teaching of a maths lesson in the first cycle and decided together that they were ready to move on to 'station teaching' or 'parallel teaching'. However, it is noted also in the field notes that Mary [NQT] and Peter [NQT], from their co-reflection at the meeting, had concluded that, although they would move forward to another model of co-teaching, they would do so at a slower pace to best suit their pupils at that time. It is inferred from these examples how CAR was the forum at which co-reflection was scaffolded. This study facilitated participants in their own reflection and group reflections on their professional relationships through collaboration with one another, but also through their professional input into CAR process, which was established and maintained by the

external researcher. Table 7 outlines the actions agreed for each participant pairing at each CAR cycle meeting.

Table 7. Actions Agreed at CAR Meetings

Cycle	Action	By Whom	When
1	One Teach, One Assist or One Teach, Observe	School 1 School 2 School 3 School 4	Six Week timeframe
2	Station Teaching	School 1 School 2 School 3 School 4	Agreed to shorten to 3-4 week timeframe
3	Parallel Teaching Alternate Teaching	School 1 School 3 School 4 School 2	Three week timeframe. School 2 progressed to other models ahead of meeting.
4	Parallel Teaching Alternate Teaching Teaming	School 3 School 1 School 2 School 4 School 2	Three to four week time frame, due to lots of school commitments. School 3 staying with parallel model for now. School 2 have been teaming and will continue.
5	Teaming	School 1 School 2 School 3 School 4	All schools teaming. Arrangements for final meeting in three weeks' time.

The progression through the models varies in each pairing and many of the co-teaching partners moved through the models at a pace faster than the timeframe set out. The timeframe was left as long as possible within the scope of the study so as to allow for other commitments at school level. Many co-teaching partners used models repeatedly and did more than one co-taught lesson per CAR cycle.

As the participants began to co-reflect as a group, they became aware of the unique context of each co-teaching pairing. It could be asserted that no two professional relationships would be the same and that, through their co-reflection at CAR cycle meetings, the participants acknowledged this in allowing each co-teaching pairing to progress at their own pace. The next section will deal with the way in which this collaboration was fostered and how the opportunity to continue and pursue other professional relationships was facilitated by collaboration with an external collaborator.

Phases of Building and Maintaining within the Model

This section will consider the journey to the end point of the study through Phase Two and Phase Three of the model; building of trust, respect and communication within the professional relationships towards the maintenance of the professional relationship. As discussed, this is not a rigid model and includes scope of moving between Phase Two and Three as a result of co-reflections. There is also a fluidity amongst co-teaching partners to revisit phases they have already worked in, except Phase One as was discussed. It is reasonable to consider that co-teaching partners may employ any of the six models of co-teaching once their professional relationships and their professional learning regarding co-teaching have been developed. Contexts affecting the co-teaching partners, which may affect their engagement with Phase Three, have also been considered early in this chapter. In this study, however, all co-teaching partners engaged with Phase Three of the model and it will be

taken as an end point for the purposes of considering the impact of the journey within co-teaching and with the CAR model.

Their engagement with this process impacted on many elements of their professional development, from their professional relationships to their reflective practices, all of which would in turn impact upon their teacher self-efficacy. Table 8 consists of a set of key words identified through word frequency analysis of the language used by the participants in all interviews conducted. The words with most references from the data sets were then identified and created in new nodes. All interviews were coded to show comments which related to a timepoint; either prior to the process, or during and at the end point of the process. This was to allow for comments which were made retrospectively or out of sequence. With coding of key words as nodes and timepoints of before, and during or after completion, a matrix data analysis was run to show how these key words were referenced at different timepoints. The resulting matrix, which can be seen in full in Appendix O is extensive with 57 high frequency key words which were coded at both time points. An abridged version presented in Table 8 display some of the results for discussion here. The numbers in the table display the references that these words had at each timepoint, these are not the only references to these key words, they may have been used more frequently during the interviews, these are the references in both key word nodes and timepoint nodes.

Table 8. Key Word across Timepoint Data Matrix (abridged version).

Key Words	Initial Discussions	Discussions During or After
Afraid	2	1
Anxious	1	0
Awkward	7	0
Benefits	1	8
Better	1	5
Change	0	7
Collaboration	0	3
Comfortable	0	4
Confidence	3	7
Daunting	2	0
Help	14	24
Ideas	5	11
Implemented	0	5
Improve	1	3
Laughter	0	7
Learning	12	23
Pressure	1	0
Professional	0	5
Questions	3	1
Reflection	1	7
Resonibility	0	2
Resource	2	10
Stress	4	1
Support	8	16
Team	2	13

Key words such as ‘afraid’, ‘anxious’, ‘awkward’, ‘daunting’, and ‘stress’ are more prevalent from the participants prior to the study. Having engaged with the process these factors have diminished, some of them entirely. The analysis of the data further showed that the concerns were of how the process might begin and of working with a colleague. The analysis of the data here suggests that the relationships built through engaging in co-teaching, CAR and the external community of

practice addressed these concerns. Through building and maintaining these professional relationships with the model for the development of professional learning and professional relationship building through co-teaching with CAR, areas such as 'learning', 'help', 'confidence;' and 'support' doubled or almost doubled for the participants. Further analysis into the references within the nodes display that the participants' views on the importance of working as a 'team', 'collaboration', using 'resources' and 'reflection' on their practice have increased significantly. It is felt that this is the result of the participants engaging with co-reflection, CAR and creating a joint enterprise within a community of practice. Their participation increased their agency, developed their mutual engagement and shared repertoire and resulted in concerns being diminished and created higher levels of teacher self-efficacy.

The areas of joint enterprise, mutual engagement and shared repertoire will be discussed in this section relating to the progression to the model and specific evidence presented for each of these areas.

Co-teaching and Joint Enterprise: Issues of Agency.

As identified already, there were issues of agency within the joint enterprise of co-teaching in the school-based communities of practice. However, a key finding from the data collected after the participants had engaged with the other elements of the model was that collegial conversations and shared roles and responsibilities could be seen in all mentor-NQT pairings in this process. Findings from Patricia [Mentor]'s final interview show that, within this relationship, there was a shift within the professional relationship to a team or joint effort towards planning for a co-teaching activity. Patricia identified the structure she needed to begin to co-teach and to continue a co-teaching relationship through the process of sharing the responsibilities of planning, organising, and teaching through professional conversations:

I would not co-teach unless both actually sat down and agreed to do it, had the plan, the objectives, the evaluation and everything organised [...] we worked together, we co-planned and we taught and we have an idea of each other's strengths and can play to that and see where we needed to change things...

Patricia, Final Interview.

The data above reflects the comments made in each of the professional relationships from the mentors' perspective, as is evidenced in their final interviews and reflective journals. All NQTs noted their sharing of agency and willingness to allow their co-teaching partner to share the planning of a lesson with them. Éilis [NQT] reflected, in the section 'good points' of her reflective journal, that a shared planning approach from mentor and NQT was a great element of the CAR cycle:

Great to see how both [mentor and NQT] plan together.

Éilis, Reflective Journal, Cycle Three.

The mentors' agency to offer their input into co-planning was observed by the researcher during CAR cycle three observation. The observation depicts the sharing of input and collaborating on the resources and practices between an NQT making decisions and taking on board the idea of the mentor and another co-teaching partner:

Co planning – Jane [NQT] was very able to be decisive and manage her expectations of the work. Did rely on others to offer what they would teach.

Observation, Cycle Three, School 1.

It is reasonably concluded here that the process of co-planning as a shared and collaborative element of the professional co-teaching relationships was achieved sooner than in the co-teaching models of Phase Two and Phase Three. It is argued that this is the case as co-planning became imperative to the task of co-teaching as soon as the models moved away from observation and assisting. The mentor had a professional responsibility towards their own teaching of the lesson as soon as they endeavoured to co-plan, co-teach and co-assess a group of students and so their agency to have their input into the co-planning was increased. When no longer acting as an observer or

assistant, the mentors felt the need to be thoroughly versed in the planning of the lesson before the act of co-teaching or co-assessing. The mentors all note in their reflective journals and final interviews that co-planning is essential for any co-teaching relationship to be successful. It was noted in the observations of the co-planning elements of the cycles of CAR that the mentors had input into what would be taught and how as well as behaviour and classroom management strategies. One example from an observation of Kim [NQT] and Cáit [Mentor] displays how this process of co-planning was structured by the participants using the short term planning template in use by the NQT for her probation requirements.

Kim and Patricia have an empty weekly plan to write on. They have already agreed subject and topic prior to this meeting. The learning objectives have been provided by Kim from her planning tool but Cáit asks to alter these to accommodate some of the needs of her Special Ed pupils ie pace of lesson and number of learning objectives altered as well as some wording. Then using the 'Resources' title they agree on who will bring/arrange what is needed. The grouping arrangements are suggested by Kim and agreed in the most part by Cáit who changes one child's grouping for behaviour management purposes.

Observation, Cycle Four, School 4.

It is suggested here that mentors increased their agency in the process of co-teaching as they began to teach within the co-taught lesson, so as to insure that their professional responsibilities as teachers were fulfilled.

Equally, as the first cycle of CAR was completed, the participants had engaged in their first cycle of collective reflection, enabled by the researcher at CAR cycle meetings and within their reflective journals, scaffolded by the questions posed by the researcher. This focused the participants' discussions relating to the previous co-teaching activity, to encourage more open communication within their co-teaching pairings. Participation within the community of practice is stated to impact on agency through the adaptations and adoption of the participants (Lave & Wenger, 1998). Additionally, as the mentors had spent time with the NQTs' classes, they now had insight into the classes the NQTs worked with and could relate to them their understanding of it. All of this added to the trust the

relationship needed, as discussed previously.

Furthering the joint enterprise to develop other professional relationships. In becoming effective co-teaching partners, and developing and maintaining their professional relationships, participants held professional conversations, structured professional reflection, and began to collaborate with colleagues. All NQTs noted in their final interviews and reflective journals their readiness to apply these skills and the knowledge acquired for future professional relationships. Conor [NQT] described how he had taken to meeting a new co-teaching partner twice prior to beginning to teach alongside that teacher:

...from next Monday on there's a different teacher coming over to my class so I've had *two* meetings with her this week just to decide who is doing what and what way we're going to balance the groups and things. So I am readily available for meeting and stuff.

Conor, Final Interview.

Conor's comments are reflective of the others and the evidence suggests that there is an eagerness to share the process and foster other professional relationships, where partners have agency in all matters of their professional roles. The success of the structure in this study, it is argued, can, not only be seen in the professional relationships that were built within the study alone, but also through the desire to use their skills and knowledge and expand the joint enterprise of the community of practice, in order to affect change in future professional relationships. One mentor noted that other colleagues, who were not part of the study, had begun to use the shared responsibility of teaching P.E. lessons together having seen the process implemented by the participants of this process:

...the junior infant teachers share P.E. slots [...]. They share a slot, so two teachers with two classes together; a lot of them double up for different things now.

Cáit, Final Interview.

It is proffered here that this process is conducive to cultivating professional relationships built upon communication, trust and respect and collaborative problem-solving; elements of effective co-teaching relationships noted by Bauwens & Hourcade (1995) and Pugach & Johnson (1995). The professional relationships built throughout this process of “shared professional responsibility and collective professional confidence” (Teaching Council, 2013b, para. 3) reflect the Teaching Council policy, which relates to teacher professional learning. Collaboration was a central element in the building of communities of practice within this study. Giving agency to participants to expand these communities of practice is a core feature of the learning within a community of practice to “reproduce their membership in the same way as they come about” (Wenger, 1998, p. 102) and expand and apply their learning to other and similar situations. The Teaching Council (2014b) also state that “collaborative teacher learning is considered to be the most important aspect of successful, positive CPD (p. 12). Findings from all participants reflect this sentiment of shared and collaborative teacher professional development. Mary [NQT] described how co-teaching could add to the professional learning, the ability to accept constructive criticism, and the ability to create a shared knowledge base amongst colleagues in schools:

Co-teaching I feel could help teachers to learn from each other and share knowledge if implemented successfully, and also to accept and offer constructive criticism as colleagues.

Mary, Reflective Journal, Critical Reflection.

Not only does the evidence suggest that CAR and co-teaching help to build, maintain, and challenge professional relationships in school and even across schools, but the evidence here suggests that the tensions, discussed in the literature review, which many mentor-NQT relationships are often fraught with (Griffin, 1986; Jones, 2002; Zeichner, 1987), have been effectively dealt with during this process. The impact of the reflective nature of the mentor-NQT relationships and the process of CAR as a forum for pursuing co-reflection have added to the construction of an equitable relationship. The

building of individuals' competence, as part of a collective group of relationships or community of practice, also affects their individual and collective agency. As outlined in the literature review, the opportunity to reflect upon and consider many experiences can add to an individual's agency. Moreover, the agency of more than one person can be seen as collective responsibility. This collective responsibility here acknowledges that "inputs will be different in every case and the outputs will emerge from the process rather than being predefined" (Dwivedi, Lal, Williams, Schneberger & Wade, 2009, p. 438). Thus, the agency of the community of practice allowed all participants to collaborate and share responsibility, as deemed important by the process, rather than being outcome orientated. This is particularly important in light of the coming changes to the induction process in the Irish context. These findings, which suggest the agency was shared within the community of practice and the dynamics of power were developed and acknowledged as part of the joint enterprise, would be an ideal representation of the type of induction process which *Droichead* aims to be; not focused on evaluation of NQTs but scaffolding those in the induction phase of teacher professional development.

Co-teaching and Mutual Engagement.

With the development and progression of the participants through CAR cycle meetings and cycles of change and action in their co-teaching there was a marked change on the type of participation within the communities of practice. Lave and Wenger (1998) state that participation within a community of practice impacts on agency and the dynamics of power. In Figure 10 the global participant types are represented. As there were more NQTs participating than mentors in this study the bar chart clearly shows this.

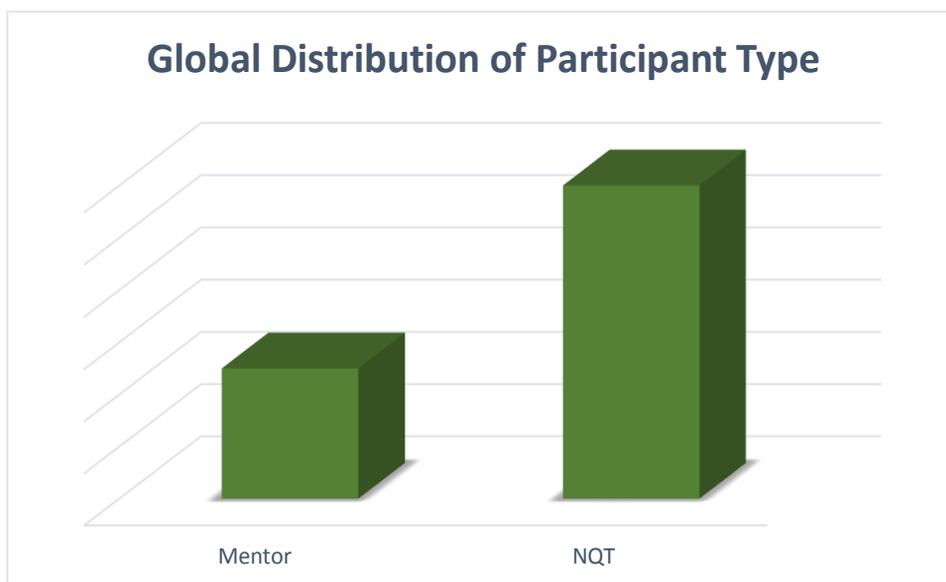


Figure 10. Global Representation of Participant Type within the Study.

Figure 11, however, shows a significantly larger distribution of mentors than NQTs. This figure displays the analysis of the coded data from reflective journals, CAR cycle meeting field notes, observations of co-teaching and final interviews regarding shared responsibility towards the co-teaching, co-assessment and co-planning of the cycles of CAR amongst the participant type. The analysis of this data suggests strongly that as the cycles progressed and the participation within the community of practice continued this gave greater agency to the mentors over the responsibility of co-teaching. The analysis of earlier stages of the process gives evidence of the NQTs having agency over the process, however, from the analysis of the data presented in Figures 10 and 11 it is clear that this shifted as the mentors gained agency in the community of practice through the building of professional relationships. This change in the dynamic of power, from the NQT displaying agency over the co-teaching to mentors expressing their shared responsibility for the task, shows that the mutual engagement of all participant types within the community of practice developed.

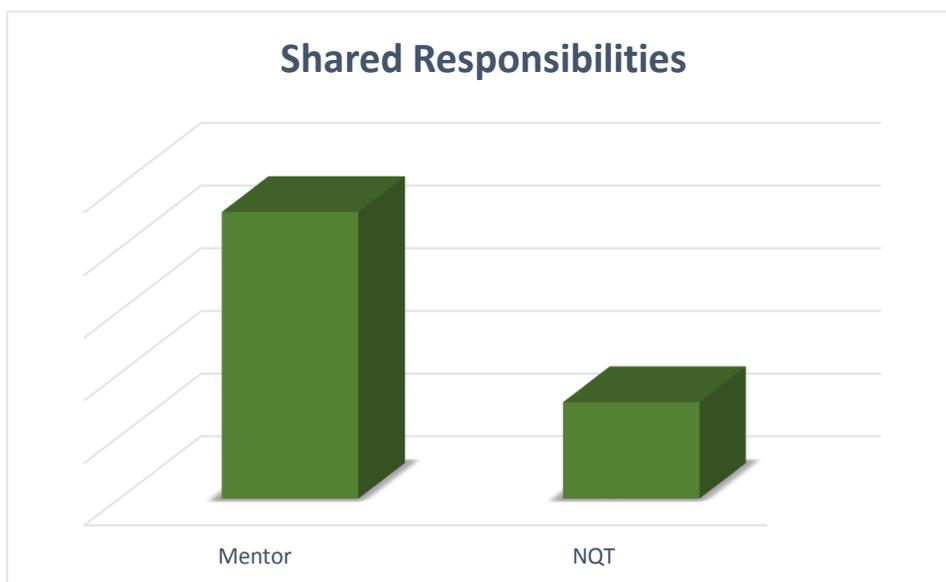


Figure 11. Distribution of Coding for Shared Responsibility across Participant Type.

Issue of agency, collaboration and shared responsibility within co-teaching. Killeavy (2006) notes that NQTs expect their mentors to be a colleague with whom they could have a professional conversation with, on any given topic; all of the reflective journal, field note, observation, and final interview analysis showed findings, where NQTs in this study held the same view. The findings suggest that, through the act of co-teaching, both mentor and NQT were given a stage, on which to present their diverse approaches to teaching and learning and their own unique teaching styles. The initial anticipation of how their professional relationship might develop and the scope of these professional relationships have been discussed. However, following the input of the co-teaching models and CAR co-reflections processes, the act of co-teaching a lesson together became a joint activity and, thus, agency was afforded to each co-teaching partner.

Her final reflection shows that Kim [NQT] identified that the beginning of the relationship can cause anxiety, however, the act of co-teaching led her to see how they complemented each other despite having two distinct personality types:

Cáit [Mentor] and I would have very different personalities which made me anxious at first. One is confident and theatrical whilst the other is reserved and calm. This was not an issue at

all. We complemented one another and the mentor showed great respect towards me.
Kim, Reflective Journal, Overall Reflection.

Kim made this reflection, having completed the entire process. It could be argued that, as a result of the CAR cycles and their mutual engagement, the professional relationships developed trust and respect and the anxiety of working with a mentor was diminished. All of the NQTs here observed their mentors teach and were observed by their mentors in Phase One. Through their mutual engagement and scaffolded reflections, the co-teaching partners were enabled to respect and give agency to each other, to teach to the best of their abilities and to bring their individual styles to their co-taught lessons. This essential building of trust as part of the development of agency and identity within their professional relationships reflects the key finding of Killeavy and Murphy (2006) from their review of the first phases of the NPPTI, which aimed to make recommendation for the provision of induction for NQTs in the Irish context and is still of significance as this provision is currently in flux.

Bríd [Mentor] reflected on this shift from ‘glorified teaching assistant’ to partners in the process, which was noted by all mentors. She noted that, with each of her three NQTs, a change happened in their professional relationships, having completed a number of co-teaching activities:

I think once you do the first couple of co-teaching sessions together it changes [...] you’re more of a partner in this process than just ‘oh this is the person who knows where everything is’.

Bríd, Final Interview.

Bríd and the NQTs learned through the process to treat each other as partners in induction, rather than relying on the mentor to answer closed questions about the school. It is contended here that the findings above depict a process of uncovering the potential inherent in professional relationship. Furthermore, it is suggested that through the mutual engagement in the act of co-teaching and the immediacy of teaching a class of pupils, the co-teaching partners were enabled to

portray their distinctive teaching styles and practices, and that this immediacy gave agency to both co-teaching partners.

Issues of agency, collaboration and shared responsibility within co-reflection and co-assessment. The mutual engagement in the school-based community of practice was considered here to impact upon the shared responsibility that participants had towards the whole task of co-teaching a lesson, which included co-reflections on their practice and co-assessment of the lessons.

Analysis of the final interviews and observations portrays that all of the NQTs and mentors began to share practices, skills, and experiences to help each other learn and improve their co-teaching. Peter [NQT] reflected on this in his final interview; he saw the opportunity to learn from another teacher's skills, ideas, and practices and reflect on his practice. He also hoped that the other teacher could learn from his practice:

Mary [NQT] brought her own skill set to the table, her own set of ideas and it made me, I suppose, reflect on my own practices and see was there any areas for improvement. And I hope Mary maybe picked up some of my good practices as well.

Peter, Final Interview.

Peter's [NQT] comment came in his final interview and he outlined the process of identifying value in each other's practice. This is a change in NQTs' initial need for a guide to help them along the challenges of induction, to a partner of equal footing, who could share the reflection of the practices they used and the learning they shared. Peter's comment is representative of all of the NQTs who noted this change in their final interviews or their reflective journals. It is asserted here that there is little evidence of an imbalance of agency in these relationships or of either partner being diminished in any way. Mentors also reflected on their changed perception of their role within their professional relationships with NQTs. Bríd [Mentor] commented in her final interview that she realised she gave more time to asking her NQTs about co-taught lessons - the management, planning

and evaluation of the lesson - than she had in previous years, when observing was her primary means of engaging in the induction process with an NQT. This process of discussing teaching, practices and professional responsibilities and so on were central to CAR in this study and the mutual engagement in a school-based community of practice.

Although Cook and Friend (1995) consider shared responsibility to be a potential obstacle for teachers in co-teaching relationships, it is proffered here that the findings suggest that the professional relationships built within this model overcame this obstacle and continued onwards to a rewarding professional relationship through the co-reflection, which were scaffolded by the CAR process. Furthermore, shared responsibility became inherent in undertaking co-taught lessons, as it is considered here as an element of mutual engagement of a community of practice.

Developing a Shared Repertoire from Co-teaching with CAR Model.

Shared repertoire across contexts. Developing a shared repertoire across all school types was imperative to the reinforcement and maintenance of the school-based communities of practice. Smith (2003) states that a community of practice create a set of “ideas, commitments and memories” (p. 2) as the shared repertoire that help it to function. A key finding about the shared repertoire of the participants in their school-based communities of practice was the positivity with which all participants spoke about their engagement with the process. They spoke positively of their experiences of working with other teachers and expressed their eagerness to continue and expand on their participation within the communities of practice. It is concluded here that this was a result of engagement within the communities of practices that this shared repertoire developed. Initial interviews findings suggest that both mentors and NQTs were wary of the process ahead of them and the way in which they might engage with the process of induction and with working alongside their

colleagues. Conor [NQT] found the prospect, of a colleague he did not know coming into his classroom for the first time, daunting:

It's a bit more daunting I suppose because you don't know the person that's coming in so when they come in then it's just going to have that initial (gasps), the initial gasp of horror but I suppose that's just because [...] you know it's someone different coming into your classroom.

Conor, Initial Interview.

Conor is an example of the data produced by the NQTs around this feeling of unease regarding the involvement of a mentor in their teaching. The uncertainty of being observed by another teacher is often noted anecdotally by teachers. The negativity around this concept has been noted in the literature for some time, with Munson (1998) suggesting that the unease of being observed can be linked “with anxiety, fear, and even hostility [...] possibly resulting in negative consequences” (p. 108). However, through participating in the cycles, the perception that working with a colleague could be linked “with anxiety, fear, and even hostility” (Munson, 1998, p. 108) was altered to a more positive outlook on developing professional relationships. The data below is taken from a CAR meeting, where the participants were asked to discuss the idea of ‘teaming’, teachers co-teaching side-by-side, the final of Friend’s (2014) models of co-teaching:

I [researcher] set to ask them if this [teaming] was unnerving [...] on reflection everybody had commented that now this process is less intimidating and in fact they love it, this shared responsibility, and that observing is not a big deal at all because it's part of the set-up of co-teaching. On reflection of all of the other models that they've gotten to so far, teaming is less intimidating now because it's built on these blocks.

Field Notes, CAR Meeting Four.

The participants all shared readiness to co-teach using this model as they had progressed through the other models. As previously discussed in the literature review, models of co-teaching require a high level of communication, trust, and preparation to, not only be successful, but to limit any anxiety for the co-teaching partners. These elements of effective co-teaching partnerships are also

considered as the shared repertoire of these communities of practice. It is suggested here that, by reflecting on each co-teaching model through the CAR cycles at an individual level, as co-teaching partners and at CAR meetings, the co-teaching partners became enabled to engage with this level of co-teaching. Mary explains that learning to trust colleagues gave way to learning through co-teaching for all partners:

Mary [NQT], again then, came in on this idea of relationships and trust in colleagues and she said that for her that co-teaching is about learning from your colleagues but also your colleagues learning from you and she felt that that is what *Droichead* should be 'marketed' as.
Field Notes, CAR Meeting Four.

Mary's insight into her own positive outlook on in-school, collegial, professional relationships and professional learning came towards the end of a process. The data here suggests that Mary's sense of positivity around the process is so great that she felt the need to have other teachers experience this through a model of induction, such as the pilot *Droichead*. As previously outlined in the literature review, this pilot is one that has not been met with positivity by the primary sector of teachers at large. All of the final interviews yield data that show that the participants had positive feelings towards the model of co-teaching with CAR; several positive key words are presented in Appendix O. So positive, indeed, that it affected the greater concept that Mary had of induction for the teaching profession. Thus, this positive memory or idea became part of the shared repertoire across all the contexts of these school-based communities of practice.

Findings suggested that across school types the participants enjoyed the positive impact of co-teaching with CAR model and reflected Cook and Friend's (1995) statement that co-teaching at this level of engagement "gives them [co-teachers] a renewed energy in their teaching and prompts them to try new ideas for reaching their students" (p. 9) is echoed by Megan [NQT] in her final interview:

I loved it [co-teaching]. I would have been lost without it I think. I think it just made the year a whole lot easier. and we actually worked as a team, we were like ‘Right, what will we do?’ not as in what am I going to do about all this which is good. I cannot wait for September to do it again.

Megan, Final Interview

Megan’s positive outlook on the process was apparent across all the participants’ responses and can be seen in the increase and use of many positive responses found in Appendix O, such as; ‘benefit’, ‘confidence’, ‘delighted’, ‘lovely’, ‘lucky’. That the participants from such a varied selection of schools shared the same impression about how co-teaching with CAR cycles had positively affected their practices, is an area for consideration in future research. Evidence from all sources suggested that the application of co-teaching to their induction process through the CAR cycles was reflected upon positively by all participants, irrespective of school setting or teachers’ previous experiences. This shared repertoire, it is suggested here, gave the participants the renewal and reinforcement needed to continue their commitment to the communities of practice.

Time and staffing: Issues for school types. The process of induction in school is not without its issues. In this study, issues of time and staffing for induction processes such as co-teaching with CAR were identified by participants. The opportunity to voice their concerns and reflect upon them as part of their communities of practice gave rise to the participants formulating questions about their induction process and about creating creative responses to challenges. Issues were overcome in various ways to accommodate the study. Each school type found ways, which worked locally, to address the challenges, such as class release time and the responsibility of full time teachers, which then became part of their shared repertoire in their school-based communities of practice.

The issue of time as a constraint to effective induction processes was identified by participants in this study. Identifying this issue of time concurs with other findings (Heilbronn, Jones, Bubb &

Totterdell, 2002; Killeavy, 2006; Smethem & Adey, 2005) that mentors and NQTs require dedicated allotments of time for induction processes. Time is essential for induction as “new colleagues need to feel that they are part of a profession in which they will continue to develop and have the time in which to do so” (Smethem & Adey, 2005, p. 199).

For the small school in this study, the issue of time away from other duties and responsibilities of the mentor was a significant issue. Patricia [Mentor] felt that it is difficult to add more responsibilities to staff that were not well resourced in the first instance:

Patricia [Mentor] agreed and said that that all works very well but for small schools it's not very well resourced, that it's very difficult to team, to take a staff member away from their class or their role, their responsibility as a class teacher or a learning support or resource teacher.

Field Notes, CAR Meeting Three.

This is undoubtedly a major area for discussion with regard to implementing induction in the Irish context. However, the participants of this study found some creative ways to engage in co-teaching and induction at local level, which suited their settings. Figure 12 represents the voice distribution of the participants in relation to the idea of ‘time’ within their process of induction. The data from observations of co-teaching, reflective journals, final interviews and CAR cycle meeting field notes were analysed. The figure shows clearly that, although time was both discussed as a negative issue and ways in which to deal with time as an issue, the distribution of discussion lies heavily with the creative ways in which the participants overcame issues relating to ‘time’.

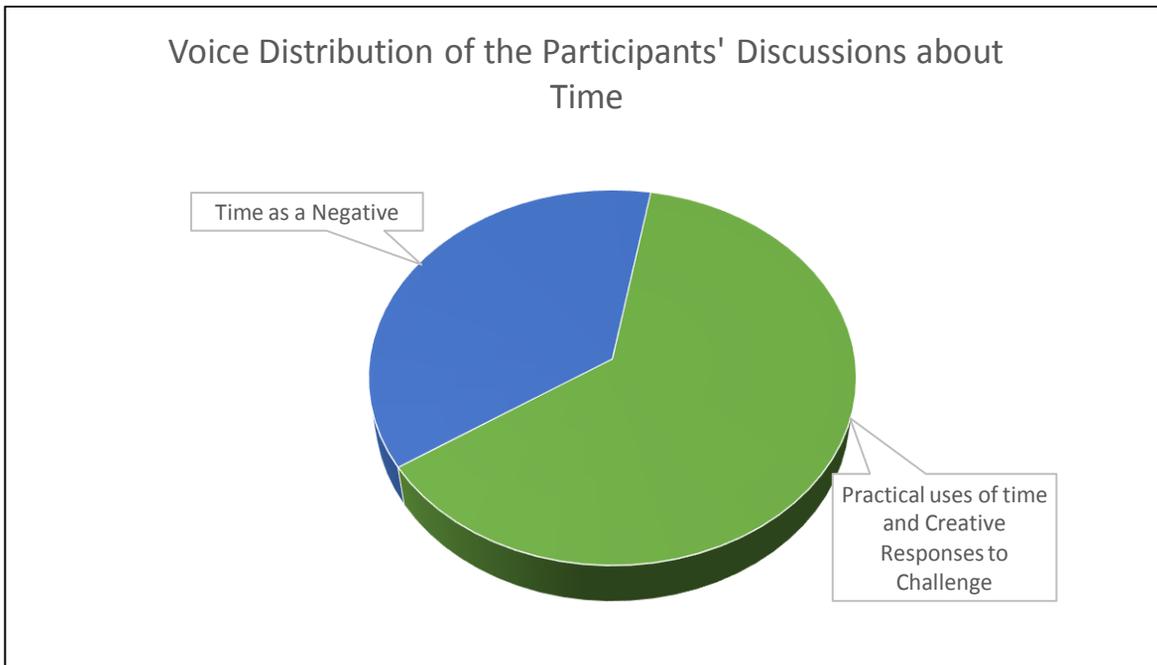


Figure 12. Chart of Voice Distribution of the Participants' Discussions about Time.

Participants shared the ways in which they addressed the issue of time with each other at all CAR cycle meetings and also provided examples during final interviews. This development of creative ways to respond and deal with the issue of time is part of their shared repertoire. Bríd [Mentor] had the support of management within her school setting. She was paired with NQTs as part of her work as one of a large number of SEN teachers in an urban DEIS school:

In our school the principal has, when possible, always paired me with at least one of the NQTs for team-teaching [station teaching model]... I will, however, suggest, following this year, that it becomes the norm where possible as it was very beneficial to teach alongside the NQT for all parties involved.

Bríd, Reflective Journal

Bríd's [Mentor] work as a team teacher for the purposes of SEN in class support, coupled with her role as mentor, allowed for an imperative professional discussion about teaching with other teachers. Bríd's principal ensured that these professional discussions were held with NQTs and, in this

way, time for in-class support planning, teaching, and assessment could be time used for co-teaching for induction purposes.

Cáit [Mentor], who taught in a large, urban, single sex school, and who was participating in the *Droichead* pilot, identified proximity as an important consideration. She was in the room adjacent to that of the NQT and could easily arrange visiting that classroom:

She was in that room beside me. Nobody would even know. I would just leave work and I would slip out and then come back in.

Cáit, Final Interview.

Her proximity to her class and her NQT's class meant that they had far more time to discuss and focus on their professional relationship as mentor and NQT. They also had more frequency of informal meetings to deal with co-teaching discussions and delivery or observations of each other's classes to help foster the understanding of the needs of each set of pupils.

Another factor that the participants used to manage the time commitment of induction activities in this process was to use some of the time allocated to teachers in the infant classrooms for preparation, which amounts to one hour each afternoon. Patricia [Mentor] and Éilis [NQT] utilised this hour occasionally for the purposes of co-teaching with other staff members in her school:

In the hour that Éilis has left in the evening, which just happens to be lucky because she's a junior teacher – she goes to all the other classes because we arranged it with all the other teachers...

Patricia, Final Interview.

Although Éilis was fortunate to have an additional hour every day, it could not be used solely for induction activities. However, the findings here suggest that the opportunity to meet for an hour of non-class contact on a regular basis might be more useful to induction activities, such as co-planning or co-assessing or co-teaching in another class, than the current provision of only allowing mentor

release days. This sentiment of allowing for dedicated, flexible segments of time being protected within a timetable mirrors the recommendations of Killeavy and Murphy (2006) as part of their review of the NPPTI. These issues and the consensus met to deal with them at the level of the community of practice reflects Wenger's (1998) stance of the "communal response" to situations arising for the community of practice.

Staffing was another important issue identified here by participants. It can be linked with time in some instances, for example, Bríd's [Mentor] position on the staff of the SEN teaching team was beneficial to aspects of time usage as a mentor. Jane [NQT] in her final interview noted how the staffing was not an issue, but rather a benefit, with an additional colleague in your class. She taught in a DEIS school with a multi-grade class of Junior and Senior Infants, with a high incidence of English as an additional language. She reflected on the benefit of being able to teach her class in smaller group settings due to having an additional teacher in her class as part of this study:

Yeah so it was really useful and it's hugely beneficial, especially having the split class [multi-grade], to have those extra teachers there as well... it's great being able to actually work with [pupils] in a small group...

Jane, Final Interview.

Jane's comments on the advantages of having an additional member of staff in a challenging class context was also reflected, in the final interviews of Mary [NQT] and Peter [NQT], who both taught in Special School settings; in Kim [NQT]'s final interview regarding behaviour management of a pupil with behavioural issues; and in the reflective journals of Conor [NQT] and Megan [NQT], who also had multi-grade classes.

Identifying areas for improvement and challenges to be addressed is central to the process of CAR. The commitment to pursue these challenges and to raise questions about them is part of the

shared repertoire of these communities of practice. The following section will move away from the community perspective and consider the individual actors and the implications for the same as a result of engaging with the model presented in this study.

Individual Implications for NQTs, Mentor and the External Collaborator

Consideration will now be given to each set of actors within this study and the implications and benefits for their own practice, self-efficacy, and individual professional styles, having engaged with the study. This section will consider the impact on the self-efficacy of the participants of this study, then focus on the impacts of co-teaching on NQT learning, followed by the impacts on mentor learning and, finally, on the benefits to the external collaborator.

Impacting on the Self-Efficacy of the Participants.

It was shown in the literature review that teachers' levels of self-efficacy are heightened when their learning and professional development are aimed at sustainable classroom strategies, having already identified teachers' prior knowledge (Bruce, Esmonde, Ross, Dookie, & Beatty, 2010; Hollenbeck, 2013). It is maintained that this process offered the participants the space to develop a higher level of teacher self-efficacy. Teachers with a higher level of self-efficacy report a positive outlook towards professional learning. The participants in this process were very positive towards the process and model of professional development and relationship building, as discussed in the previous section. All participants did engage in 'teaming' model of co-teaching, which required a level of communication and trust within a relationship, which could prove very daunting to teachers with lower levels of teacher self-efficacy. A teacher with a lower level of teacher self-efficacy would have less confidence in content and practice and would be less likely to engage in a professional development activity (Kitching, Morgan & O'Leary, 2009), such as co-teaching in their own school environment. Data had already been presented, in relation to shared repertoire, which showed that

every participant was willing to participate in the most demanding model of co-teaching; teaming. It is apparent that, as a whole, the participants' levels of teacher self-efficacy had been raised by the process through which they had come. The participants' comments about the process as a positive one were also found in the final interviews and critical reflections of their reflective journals. Cáit [Mentor] expressed her simple satisfaction with the process and her positive disposition towards learning to work with other people in her final interview:

I think it [co-teaching] is fantastic. It was a wonderful year and it wasn't work. I learned a lot about handling people and dealing with people and I'm not even talking about learning anything from the school point of view yet.

Cáit, Final Interview.

Voss and Bufkin (2011) found that teachers who engaged with co-teaching at ITE also had a higher level of teacher self-efficacy and Cáit's [Mentor] positive view of her engagement with this process here reflected those findings.

Additionally, the NQTs perceived that their participation in co-teaching had a positive impact on their pupils, such as the example of engaging in discussions with their mentor on new behaviour management techniques and the focus on the needs of their pupils, in terms of the pace of the implementation of the process. This perception of the NQTs' own professional learning, having had a positive effect on their pupils, was another indicator that these teachers had a higher level of teacher self-efficacy. Bruce and Flynn's (2013) study did show that teacher self-efficacy does affect pupil learning. Perhaps an area for additional research within this topic could be to explore if the participation in co-teaching with CAR could have a positive impact on pupil learning as the data here is evidence only of the perception of the teachers.

The literature review identified that, for professional development to have an impact on the teacher's learning and their practices, it should move from a transmission to a transformative model. This, in turn, develops the capacity of the teacher for professional autonomy; that is to say, the teacher can identify and address their own learning needs. Teachers, therefore, need to foster the ability to reflect on their own professional practices to coincide with the professional development to build the capacity for professional learning autonomy. Teachers who are positively engaged in professional development are likely to have higher levels of teacher self-efficacy (Briley 2012; Viel-Ruma, Houchins, Jolivette & Benson, 2010). It is suggested that professional development of this study, imbued with reflective practices, could also have affected teacher self-efficacy.

NQT learning: Impacts of co-teaching.

It was anticipated that the application of co-teaching and CAR would have an impact on the learning of the NQTs, since this study was concerned with induction level teacher education. The analysis of the data indicates that the professional practices of NQTs were impacted upon in two ways. The first being the way in which NQTs' expected attitudes towards induction journey appear to be altered by the process undertaken here and the second, that the same process added to the NQTs' professional reflective practices for learning.

First-year teaching attitudes and perceived changes. On beginning to co-teach within this study, all of the NQTs did express, during their initial interviews, their anticipation for the year ahead and were able to identify their strengths; they indicated they wished to share these with their classes. Conor [NQT], in his first interview, explained how he had an undergraduate qualification in Physical Education and was keen to share his expertise and ideas with both staff and pupils in the year ahead of him. This anticipation was again apparent in the analysis of the data in the final interviews for all NQTs. Megan [NQT] commented on how she missed participating in co-teaching now that the

process was at the end and her desire to do it again in September was clear in the analysis; this was iterated by all of the NQTs in their final interviews or in their reflective journals. Moir's (1999) calendar of first year teacher attitudes and Fuller's (1969) stages of first year teacher concerns, which were described in the literature review, were reflected by the comments of the NQTs above, in displaying the anticipation for teaching seen at the beginning and last terms of the first year amongst NQTs. It is suggested here that, as part of this process, the NQTs experienced a longer period of reflection and reached the point of anticipation again far quicker than Moir's timeline might suggest. Findings suggest that NQTs reached this point more quickly, or in fact, did not experience disillusionment in any great way because they were constantly engaged in the act of professional discussion and co-reflection as part of the process of co-teaching and CAR. Conor [NQT] reflected in the second cycle of CAR, which happened within the traditional disillusionment timeframe, that the lesson was successfully delivered as a result of this professional discussion:

Good understanding and communication between teachers allowed for the lesson to be delivered successfully.

Conor, Reflective Journal, Cycle Two.

Conor's framing of the lesson reflection is a positive one; he identified that it has been a successful lesson and gave the tools which enabled that to be as such. This section came at a time point where Moir (1999) and Fuller (1969) would have anticipated concerns, issues and disillusionment, however this NQT is positively engaged in his work.

The word frequency analysis results image (Figure 13) below displays the language used by NQTs throughout their reflective journals and their final interviews. The word frequency query searched through the selected data sources and only the responses of NQTs as a participant type.

therefore argued that the NQTs, when expressing themselves in an individual capacity throughout the academic year, experienced little or no disillusionment as expected in other models of teacher induction processes. Additionally, it is argued that this model, which engaged them continually with reflective practice and the support of a community of practice, must have enabled them to deal with issues and concerns within their induction journey in such a way that they were able to manage these potential negative influences, as none of them appear within the word frequency analysis. This could be due in part to the support of a mentor and the community of practice.

Having analysed all other data sources, in addition to those collected individually, there was no evidence to suggest that the NQTs felt anything other than supported and guided through the process of co-teaching. Jane [NQT] expressed in her final interview how useful such support and guidance could be for NQTs:

I think it's very useful for someone coming out in their first year of teaching because they have the support of the other teachers in the room and it can be a great way of guiding that teacher and showing them the system that's already in place and helping them with their planning...

Jane, Final Interview.

Jane explained how she thought that her experience of co-teaching helped her to feel supported through induction; how she was made aware and was helped to navigate issues at class, school and on a national level. Her comment holds the sentiment of all of the NQTs from each source; that co-teaching enabled them to deal with and manage the many issues facing an NQT as they begin to teach, by virtue of the fact that they had an experienced colleague working alongside them, either in the role of mentor or external collaborator. Kim [NQT] described this feeling of being supported constantly during her co-teaching lessons by saying:

She was kind of just my back-up [...] whispering in my ear ‘you know’ or just really supported me throughout it.

Kim, Final Interview.

Kim was describing how she felt throughout the year and during each step of the co-teaching process. Mentors not only supported the NQTs throughout their induction, but had to reflect with their NQTs on co-taught lessons during at a time when, according to Moir (1999), Furlong and Maynard (1995) and Fuller (1969), they should be feeling disillusioned. Evidence suggested that the NQTs in this process experienced little or no disillusionment during this time, as they were involved in all the reflective elements of co-teaching and CAR with mentors and the external collaborator. Field notes from the CAR meeting, held just prior to the end of the first term of school, observed that, not only did each participant reflect on their co-teaching, but Éilis [NQT] and Patricia [Mentor] shared resources they found to be helpful. Mary [NQT] and Peter [NQT] were able to identify that, on reflection with the group, they wanted to revisit the way they had co-taught their previous lesson and all participants were enabled to make an action plan for their next steps in the process, based on their reflections of the previous cycle. It is proffered here that two elements have altered the expected first year phases (Fuller, 1969; Moir 1999) of an NQT and that this warrants further investigation. These two elements were having the support of a mentor in class as a co-teacher, and outside of their classrooms to share the responsibility of reflecting on their lesson for planning and assessment, as well as the support and facilitation of co-reflections and professional conversations from the external collaborator.

Reflecting on professional practices as scaffolded by co-teaching with CAR. As anticipated, the learning of the NQTs was central to the application of co-teaching during the induction process. The NQTs who participated were teaching in different school settings, class levels, and with different types of support. All of the NQTs identified classroom and behaviour management as key areas of

learning in their initial interviews, reflective journals and during their final interviews. For some, it was an area they identified, from the beginning of the study, as an area of concern. The responsibility of maintaining order and teaching and modelling good behaviour were issues raised by NQTs as they began to teach (Banks et al., 2015; Feimann-Nemser, 2013) and so it was not surprising that the participants of this study identified them also. In the initial interviews and meetings, however, how to navigate and successfully apply techniques and good practice whilst also furthering children's learning was a huge learning curve that all the NQTs faced:

There are times when you must simply manage the behaviour of the pupils and it is difficult to know how I can enhance and progress each person's learning as a result.

Peter [NQT], Initial Interview.

Peter [NQT] identified his concerns for meeting the requirements of addressing the individual learning and behavioural needs of his class. It became apparent to the researcher throughout the meetings, as the cycles of CAR progressed, and from the data gathered, that all NQTs were gleaning techniques from the co-teaching episodes, which helped them with their classroom management techniques. Kim [NQT] discussed learning classroom management techniques for her infant class from her mentor in the first cycle of co-teaching; she framed her learning in a positive light, identifying her intention to use it in future:

Today Cáit [Mentor] showed me that it is ok to give responsibility to the children to set up the P.E. equipment. The children felt so important setting up the equipment and they did a really good job at setting it up. I couldn't believe it. This is definitely something I will be using in my future lessons.

Kim [NQT], Reflective Journal, Cycle One.

It appeared from the data that the learning regarding classroom and behaviour management occurred throughout the cycles. Kim [NQT] had mentioned it in Cycle One, as illustrated above, whereas Éilis

[NQT] made reference to issues of classroom management techniques in the final cycle of the co-teaching reflective journal. It is proffered that this study gave NQTs the structure to reflect on their own classroom and behaviour management strategies and on that of their co-teaching partners in a continuous way.

All of the NQTs commented on the importance of co-teaching as a means of learning to teach by engaging with other teachers during their final interviews and in some of the reflective journal critical reflections. The variety of experience and prior knowledge made available to them broadened the scope of their learning during the induction phase of teacher education. Mary [NQT] described this broader feeling of benefitting from the process of co-teaching and co-reflecting with a partner, in her critical reflection in her reflective journal:

Our discussions were helpful as we both encountered some of the same issues regarding our teaching and were able to offer suggestions / advice to each other.

Mary, Reflective Journal.

It was felt that Mary's reflection shows the sense of learning from each other that all other NQTs expressed in various ways. During the analysis of the data, the ways in which teachers, particularly the NQTs, shared their experience and learned from each other through observations, discussions and reflections came to the fore. NQTs identified a range of topics that were developed during their co-teaching sessions with other teachers. Conor [NQT] noted in his reflective journal that through suggestions made during planning with his mentor he became more effective in his use of play to scaffold the language acquisition of his English as an additional language (EAL) pupils. It was observed by the researcher that Jane [NQT] employed more diverse methods and resources, particularly in relation to the teaching of mathematics, as a result of discussions held as part of the co-

planning and co-assessment of lessons during observation one and three. Megan [NQT] learned to use conferencing as a tool for assessment for learning whilst station teaching.

Having analysed the data from the participants, it was apparent that the NQTs believed that the opportunity provided during co-teaching allowed them “to transform knowledge attained to knowledge-in-use” (Shulman, 2005b, p.20). Therefore, this process afforded the NQTs the prospect of applying and analysing the knowledge they attained in ITE and supplementing this knowledge-in-use with the experience and shared reflection of a colleague. The analysis of the data shows that the blended experiences and modelling of other teachers, joint reflection with such colleagues, and learning throughout the cycles of CAR with group reflection, created and nurtured the NQTs’ reflective practice for the purpose of learning. The literature notes that teacher educators, in general, and in this instance school based teacher educators, can often begin their journey by sharing tips and tricks of how to teach (Berry, 2007). However, it is inferred from this analysis of the data that it was the experience of NQTs in this instance, not only to receive these tips, but to be scaffolded in reflecting on teaching and learning and applying these to their own practice. This ability to reflect on their own practice and on other practices; use of resources, methods of assessment, and so on will help them to critically apply new knowledge to their practice, a crucial element of teacher learning (Darling-Hammond & McLaughlin, 1995; DuFour, 2007; Killion & Roy, 2009; Schön, 1983). The ideas of reflective practice and teacher self-efficacy will be explored in the next section.

Mentors Reflecting on their Practice and Learning from their NQTs.

Whilst one might have expected that NQTs would benefit from co-teaching, in line with other research (Pugach & Winn, 2011), these research findings indicated that participation in co-teaching and CAR held a number of additional benefits for experienced teachers also.

Reflecting on mentor practice. The analysis of the reflective journals for mentors identifies that the mentors' focus was clearly on their role in supporting the NQT and the quality of the lessons for the pupils. This was despite the fact that the reflective journal questions guided reflection on the act of co-teaching. Evidence of their own learning only came to the fore, in any detail, in their final interviews and in the final meeting at the end of the CAR cycles. From the analysis of the initial stages of the CAR cycles, interviews, and reflective journals, it seemed that the mentors were focused on the learning needs of the NQTs:

I [Brid Mentor] provided sample template for planning writing to Jane [NQT] that was the agreed whole school approach and outlined how other classes arrange the writing lesson.

Brid, Reflective Journal, Cycle One.

Brid, in her role as mentor, facilitated Jane's learning about school planning and whole school approaches. It appeared that they attended to this by supplying the NQTs with techniques to 'apply' to situations. This was documented in both reflective journals of mentors and NQTs and the final interviews of mentors and NQTs. However, the data findings from the final interviews and final field notes revealed that the mentors had been reflecting on their practice, in addition to the learning needs of the NQTs. Mentors were not simply handing out ways to teach or manage classrooms for NQTs to put into place; they were, however, reflecting and considering the way in which they taught, managed student behaviours and classroom resources, and even began to consider why they did these things in their own practice. Cait [Mentor] highlighted this process of reflecting on her own practice many times in her final interview:

I would definitely be scrutinising myself more now, minutely now, than I would have beforehand and I also felt that for me to go in there to her saying 'this is the way it should be done' I needed to up my own game...because it would be a little bit hypocritical to be in there and not doing it myself.

Cait, Final Interview.

All of the mentors described how they consider or scrutinise their practice in light of their role as a co-teaching partner, suggesting to the researcher that the mentors were critically reflecting on their own practice. This reflected the findings of Jones and Straker (2006), that mentors generally replicate what they know to be effective practice, but given time and support to “make their practice and the rationale underpinning that practice accessible” (Garrigan & Pearce, 1996, p. 25), mentors can model critically reflective practice and support NQTs to engage in these practices. In doing so, both NQTs and mentors benefit from the learning opportunity of induction level teacher education. The interpretation of the data analysed here suggested that the opportunity to co-teach with CAR gave both the time and support required for the mentors to critically reflect on their own practice.

Mentor professional learning from NQTs. The mentors commented at length on the ways in which their interactions with the NQTs had had a positive impact on their own professional learning. In their final interviews, and when reflecting on the cycles of CAR during the meetings, mentors noted the ways in which they had added to their own practice by being partnered with the NQTs. The analysis of observations and reflective journals of mentors and NQTs showed the mentors being led, at times, by the NQTs whilst planning and assessing the teaching for the NQTs’ classrooms. The findings suggested that the mentors were given cues to deal with the behaviour of specific children, pacing lessons, as well as classroom management styles, by the NQTs during the time allocated to planning and assessment of co-taught lessons. Parallels can be drawn between this finding and that of Jones and Straker’s (2006) study. It is proffered here that mentors will develop their skills for reflecting on their practice, given the time and support; the same mentors are open to new learning from their NQTs. This could affect the collegial learning that takes place in school.

Mentors described, learning to deal with class noise levels, resources for dealing with emotional and behavioural difficulties in classrooms, the use of ICT resources, and areas of planning

and preparation as some areas of new learning for themselves. Bríd [Mentor] would not have considered using music in her practice prior to experiencing it in an NQT's class and acknowledges how will it works in the setting:

Jane [NQT] has background noise in her ... background music, sorry, you know trickling waterfalls and bird songs and things like that. I wouldn't have that in a million years in my room... But it works for her in her room and she likes it and the children, you know they like it, and it works well for them.

Bríd, Final Interview.

All of the mentors acknowledged that their learning during the co-teaching process was specific and particular to them. Primarily, however, they described the reflective nature of the process of working with another teacher. All of the mentors attributed the co-teaching as an opportunity for them to learn alongside the NQTs. Cáit [Mentor] expressed a change in her previous stance of observation as key to the role as mentor to reflecting on the benefits of co-teaching partnership:

I always feel that you gain so much more from each other by working alongside, I don't know, it's just so hard to put in words, like you just ... you definitely ... like you gain a lot more rather than just sitting there observing. Like you're reflecting throughout your lesson, obviously reflecting after as well.

Cáit, Final Interview.

The interpretation of how the mentors have learned from their NQTs suggests that, as a model for professional development, co-teaching fulfils many of the elements identified by Garet et al. (2001) for positive outcomes from teacher professional development. In this research, co-teaching involved collective participation, and active learning was key to the implementation of the cycles of CAR. In addition, the focus was on the planning, delivery and assessment of classroom lessons and co-teaching was job embedded. It is obvious to the researcher that the findings here replicated many of the criteria, as set out by Garet et al. (2001). Therefore, the mentors in this study have been

exposed to “enhanced knowledge and skills” and this is “likely to lead to change in teacher practice” (p. 934).

Researcher as External Collaborator: Implications and Reflections on Professional Practice.

The role of an external collaborator was central to the process of CAR and, in this instance, the external collaborator was the researcher. It is for this reason that the following section of this chapter will be written in the first person as it explores the impact on the researcher individually and reflects on the researcher’s experiential knowledge as discussed in the previous chapter in relation to the construction of a conceptual framework.

As the external collaborator, I was in a unique position to visit all the school-based communities of practice and to facilitate the external community of practice. Although I did not engage in co-teaching in the school-based communities of practice, I did ask open-ended questions during the reflections and co-planning elements of the cycles. I was often asked questions by the co-teaching partners or my opinion was sought; when this happened, it was my role as a mentor or classroom teacher that the participants were engaging with; they were not engaging with me as a researcher. The observations reveal data that suggest this when participants looked for my opinion and reflections on my own experience and practice:

Bríd [Mentor] and Jane [NQT] asked had I come across or had used in my class a programme for the interactive white board which they were considering to use in their station teaching.

Observation Two, School One.

Phrases such as ‘in your class’ or ‘in your school’ were often put into a question posed to me during these conversations about co-teaching. This evidence suggests this portrays that the participants saw me in all the roles and the experience that I had within those roles and not simply as a researcher. This led me to take on a role of collaborator within these relationships, which is deeper

than that of facilitator. I was one of the voices in the communities of practice. My experience and knowledge became part of the shared knowledge of the communities of practice. From that position, the shared learning was of benefit to me as a practitioner also.

Through these collaborations, I have added to my professional practice through observing co-teaching partners at every stage of their co-teaching tasks at school level. I have observed and discussed with co-teaching partners their practices in their own contexts; each was different to my own. However, the co-reflections and shared repertoire of the school-based communities of practice included the external collaborator and so it became part of my own professional learning. Although this was not part of the focus of the study, it is significant to point out that the external collaborator also benefits from the learning of the communities of practice.

This role as collaborator was to direct the structure and pace of the CAR cycles and to participate in the professional discussions held around the tasks of co-teaching and the reflections on co-teaching. It was imperative that each co-teaching partnership moved at a pace that suited their contexts, as issues such as time, staffing, and other school commitments might affect their engagement with the tasks. The participants also had the remit of being part of the decision making of the external community of practice as their agency over such is key to both communities of practice (Wenger, 1998), and also to CAR (West, 2011). As an external collaborator, I was keen not to diminish the agency of the participants in their roles. However, my own reflective practices throughout the process led me to the conclusion that my perception of my agency was askew with the process at hand. I decided not to diminish my agency and role within the communities of practice, but, rather, share my thoughts and opinions and move conversations forward, just as the other participants in the community of practice had been doing:

Éilis and Patricia shared a co-teaching observation checklist [...] and so I was going to push people a little more to delve into teaching side by side in parallel [...] what happened was that people began to discuss the nature of *Droichead* and how that would impact on that relationship between mentor and NQT.

Field Notes, CAR Meeting Three.

As can be seen in the section from the field notes above, I engaged in a professional discussion that had been started by two participants who were sharing a resource, which had a focus on co-teaching professional relationships. The discussion moved on to another aspect of co-teaching professional relationships. I had agency to engage with the topic but I did not pursue a topic if the participants chose to take their discussions in an alternative direction. In this way, I collaborated within the community of practice and did not dictate to the community of practice. This was an understanding that came through using reflective practice, which was a key element of the study.

Co-teaching with CAR: Pedagogy of Induction and Analysis as a Model for Professional Development

Model for the Development of Professional Learning and Professional Relationships through Co-teaching with CAR as a Signature Pedagogy.

The research question endeavoured to identify how co-teaching might affect induction level teacher education, specifically in relation to the mentors and NQTs, through using CAR as a methodology. It has been shown here how co-teaching was employed as a successful tool in the learning, not only of NQTs, but also of their mentors. The data analysis led the researcher to develop a model to represent how co-teaching was intertwined with the cycles of CAR and individual and group reflective practices, and also that findings were developed in a complex context. Thus, it is suggested here that the whole context of the model for the development of professional learning and professional relationships through co-teaching with CAR, should be considered as an example of a signature pedagogy, not solely co-teaching. The analysis of final interviews and field notes of CAR

meetings, and to a lesser extent the reflective journals, portrays the levels of confidence, satisfaction in participation in professional development, and professional reflective practices that are associated with higher levels of teacher self-efficacy. However, in the literature review, the idea was raised that mentors and NQTs should engage, not only in activities and professional conversations, but in pedagogies of teacher education at induction level. Having analysed the data, a question arose - had the process and actual experience of co-teaching with CAR revealed itself to have any of the indicators of a signature pedagogy of education?

Shulman (2005a, 2005b) identified the core elements of any signature pedagogy as having deeply engaged its participants; participants having a greater responsibility towards their learning and that of others and participants' application of knowledge attained to knowledge in use. From initial interviews and the field notes from the first CAR meeting, it was clear that participants had little knowledge of the complexity of co-teaching. Through CAR, knowledge of the process was shared by the researcher and reflected upon and augmented for practical use by the participants. For example, in the second CAR meeting, one group of NQTs and their mentor decided to begin co-teaching using a parallel model, having already engaged on the models of 'one teach; one observe' and 'one teach; one assist':

Bríd [Mentor] and her group for their next steps are going to work on looking at [parallel] co-teaching, like Éilis [NQT] and Patricia [Mentor] did, so as to look for behaviour management strategies, classroom management strategies and co-teach together to see how the other person might do it.

Field Notes, CAR Meeting Two.

The group came to the decision of co-teaching in a parallel model, having reflected on their own initial steps into co-teaching, having heard from the reflections of how they had co-taught, and based on their knowledge of the other models of co-teaching. It is inferred that these teachers have, even at

this early stage of the CAR cycles, begun to apply the knowledge they had attained from reflection and discussion to their teaching together. This reflects the first of Shulman's (2005a, 2005b) categories. For the participants in this instance, to have come to this plan of action for co-teaching, it would appear that they have been deeply engaged in the process of learning to co-teach. The evidence presented here as their joint enterprise, and their development of shared repertoire within the communities of practice, also shows their deep engagement with the process of co-teaching with CAR and this forms the third of the three categories.

Each cycle of CAR involved each of the participants sharing their reflections and appraisals of the previous cycle, which it was felt, was a valuable tool for them. CAR was chosen, however, as a methodological approach to data collection for the purposes of researching teacher induction and co-teaching. Outside of the CAR method, the participants were all co-teaching more frequently than once per CAR cycle. Their comments, from the final interviews, observations, and field notes indicate this. Jane [NQT] and Bríd [Mentor] co-taught on a weekly basis, as was evident from the observation of their co-planning session. Éilis [NQT] and Patricia [Mentor] were noted in the above quote from field notes to have had already employed the parallel co-teaching model prior to the second CAR cycle, when initially all that was required of them was to observe or assist, as per the first two models of co-teaching (Cook & Friend, 2006). Kim [NQT] and Cáit [Mentor], and also Mary [NQT] and Peter [NQT] began to pool their resources and co-taught many PE, music and drama lessons, as was evident in their final interviews:

Particularly doing it [co-teaching] every week, I'm like ... you know I'd be delighted to see her come down and we'd kind of go together...

Kim, Final Interview.

Kim revealed above that she and Cáit were co-teaching on a weekly basis. Her statement was also reiterated by Cáit in her final interview. The relationship built between the participants would have led them to join, perhaps more easily, together. It was assumed by the researcher, having analysed the data that the participants were in fact displaying an awareness of their co-participants in learning to co-teach for the purposes of induction.

The data presented throughout this chapter shows how these participants engaged in and built a community of practice, with elements at school level and interschool level. The data shows their commitment to developing awareness of each other's needs, their own needs and identifying how to address these needs. They developed professional relationships built on the reflections of individuals and as a group. Evidence also shows that they were applying the knowledge they had attained about co-teaching to other co-teaching opportunities and reflecting on their own practices outside of the study; thus, it could be argued, that they were deeply engaged in this learning. It has been previously highlighted that the work of Lave and Wenger (1991) states that teachers can become catalysts for educational transformation when engaged in collegial learning over an extended period of time, which involves a critical reflection of their classroom practices, as well as practitioner research. These elements reflect Shulman's (2005) components of signature pedagogies. It is submitted here that the combination of CAR and co-teaching is a signature pedagogy of teacher induction in the model for the development of professional learning and professional relationships through co-teaching with CAR as evidenced by the findings presented in this chapter which reflect each element of a signature pedagogy.

Exploring Co-teaching with CAR as a Professional Development Model.

As highlighted in the literature review, creating a model of professional development, which supports teachers in identifying their own learning needs, and to act on the changes this learning

brings, is a move away from the transmission of professional development to the transformative model. To do this, the model of professional development must engender reflective practice and acknowledge the variety of circumstances that can affect a teacher's learning (Kennedy, 2005). Within Kennedy's nine model framework for analysing professional development, it is argued here that co-teaching, with the addition of CAR, fits into the transformative model of professional development. Arguably, the professional development employed in this study was a combination of the community of practice and action research models. The participants were involved in sharing knowledge to attain new knowledge in a setting with more than two teachers, as in a community of practice. However, the actual practice of the community was shared and reflected upon with the purpose of, not only sharing knowledge, but of formulating the next steps of action, as noted in each of the field notes for the CAR meetings. This reflection on action is key to the action research model outlined by Kennedy (2005) and it could be contended that this is the model within which this research falls. It was asserted that this model is an incorporation of the two models, which allowed for and "recognises the range of different conditions required for transformative practice" (Kennedy, 2005, p. 246). The schools that participated in this process were of a wide variety and the participants had varied backgrounds in teacher education and mentoring. However, participants noted in their final interviews how the process had helped, supported, or strengthened each of their journeys as an NQT or mentor throughout the year. Table 9 represents a matrix of how CAR and collaboration intersect with all other elements, or nodes, created in the data analysis process. These are data from all sources; interviews, observations, field notes, reflective journals. Where there is a larger number, this indicates that there were significant intersections between that node and CAR and collaboration.

Table 9. Matrix of CAR and Collaboration across all Other Nodes.

	Collaborative Action Research	Sub-node: CAR	Sub-node: Collaboration
1 : Co-teaching as Professional Learning	72	20	57
2 : Children's Learning	4	1	3
3 : Mentor Learning	8	4	6
4 : NQT Learning	26	6	22
5 : Co-teaching as Professional Relationship Building	130	44	93
6 : Relationships	75	28	49
7 : Shared Responsibility	88	26	68
8 : Creative Responses to Challenges	105	30	79
9 : Co-teaching Comments by Teachers	81	23	62
10 : Positive Comments	25	5	21
11 : Staffing	22	5	17
12 : Time	27	10	18
13 : Practical use of time	13	6	8
14 : Time as a Negative	9	2	7

Strikingly, there are intersections between all other nodes and those coded to CAR and collaboration. The data would shows that collaborating within this process was significantly important in many areas, such as ‘Co-teaching as Professional Relationship Building’, ‘Shared Responsibility’, ‘Relationships’ and that it impacted on all areas of the process. It is important to note that ‘Collaboration’ and ‘CAR’ were coded independently, as were all nodes, and that these intersections came to light when the matrix analysis was later run within Nvivo. Therefore, the collaborative processes which occurred as part of this study can be seen to impact on many elements of the participants’ professional development.

Mary [NQT], who taught in a special school, felt that the process allowed her to focus on the needs of teaching in that context and where to set her focus with non-verbal pupils:

I feel I have come a long way, in terms of my skills, my confidence with the class. When I started, it was my first year in a special school and I didn't have experience of children who are non-verbal. So at the beginning of the year I didn't really have much idea what to do, what activities you could do as an alternative to say reading and writing. [...] I have learned a lot from my colleagues as well [...] certainly more from watching my colleagues and I suppose their experience.

Mary, Final Interview.

Mary, like all the participants, had the opportunity to shape the learning she needed to enable her to feel successful in her first year of teaching. Although she taught in a different setting to the other participants, hers was a sentiment that was expressed by others in the process during their final interviews. The interpretation of the data in this context implies that co-teaching, as applied through CAR, is a transformative model of teacher professional development, as outlined in the literature review. This enables teachers to reflect on their practice and address their unique learning needs.

In considering further the analysis of co-teaching, as a means of professional development, specifically mentor learning, the models of professional development (Kennedy, 2005) are again revisited here. All of the mentors had been trained through the NIPT initial mentor training programme. The training consisted of a week-long intensive course, which could be described in terms of Kennedy's models of professional development as the 'training model' (Kennedy, 2005). Mentors principally responded positively to mentor training courses and the impact the courses had on their professional learning through interaction with course content and interaction with their professional peers (Hagger & McIntyre, 2006; Lopez-Real & Kwan, 2005). In this study, the mentors responded very positively to the content shared with them by the researcher and other mentors during the CAR cycle meetings. Field notes showed how the role of mentor in co-teaching was as important to professional learning as the role of mentor in *Droichead*: Cáit [Mentor] spoke at length about relationship as a mentor in the *Droichead* process is as important as it is as a mentor in the co-teaching process [...] that they are learning from each other [whole group].

Field Notes, CAR Meeting Three.

This collaboration showed the positive influence such a training model can have on disseminating skills, knowledge and information amongst teachers. However, a major criticism of the

training model was that it was not embedded in the classroom or school situation in order for it to be easily applicable to a teacher's context. Therefore, the need to reflect on one's own practice is not a focus of this model. Mentors, as well as NQTs in this study were supported by other participants and the external collaborator in reflecting on and acting on change in their practices through engaging in the CAR cycles and the reflective journal questions. This structure of professional development is emphasised by Kennedy (2015) as a process by which teachers can take control of research to augment their practice, to suit their individual circumstances, which is crucial to professional learning having a transformative effect on practice.

Summary

The findings here have been presented within the scope of the model for the development of professional learning and professional relationships through co-teaching with CAR. This model was described and the elements of data then considered within the context of this model. Key findings from these elements were synthesised into the core features of a community of practice; namely, mutual engagement, joint enterprise, and shared repertoire, as described by Wenger (1998), and defined in the literature review. The impact on the actors within the study - the mentors, NQTs and the researcher, and the implications for their professional practice - have also been examined. The findings were then considered in light of the concepts of professional learning and frameworks for professional development, with suggestions made about the use of co-teaching with CAR as a pedagogy of teacher education. The following chapter will further develop this and other points and the conclusions of the study will be presented.

Chapter Five: Conclusions

Chapter Organisation

This chapter will begin by collecting the main points of the previous chapters. Following on from this, a brief overview of the main findings and conclusions will be presented. The strengths and limitations of this study will then be presented. Finally, the implications and recommendations from this study, along with recommendations for further research will be examined.

Building and Maintaining Professional Relationships.

Figure 7 outlined the process through which the mentors and NQTs progressed. They created, developed and sustained their mentor-mentee relationship by engaging in this model. The model enabled them to develop their agency within the community of practice. They developed a shared repertoire through their participation within the community of practice and their co-reflections. Their relationships were built, maintained, and challenged, along with their professional learning using co-teaching models and CAR. Phase One of the model created the basis for the professional relationship. Phase One is similar in many ways to the process of mentoring and induction currently practiced in the Irish context. It is imperative for a solid foundation of trust, respect, and communication that the mentor and NQT engage in observations and assisting in the other's classroom. It is imperative that "the relationship between mentor and NQT [is] first and foremost built on trust" (Killeavy & Murphy, 2006, p. 84). This was but a starting point, however, and from this point, the co-teaching pairings participated with co-reflection as part of CAR in the external community of practice and through their reflective journals. This is a new divergence from the current practices commonly in place in the induction phase of teacher education in the Irish context. The co-reflection was facilitated by the external collaborator; in this study, that role was fulfilled by the researcher. The role required the

external collaborator to create a forum for CAR cycle meetings, at which the participants were scaffolded to reflect on their co-teaching experiences. Additionally, the external collaborator facilitated each co-teaching pair to co-reflect with reflective journals for each cycle of the CAR process. This study has shown that the co-reflection in the external community of practice enabled the participants to recognise what actions they needed to implement within their professional relationship, but equally the opinions of others in the process were taken on board by the participants within the shared co-reflection experience. It enabled them to begin to identify their agency over the practices they shared, as well as giving them the opportunity to participate in the creation of a shared repertoire to address those needs. Each time the participants reached a transition from one phase to another, the process of co-reflection enabled them to choose whether they felt they should move forward to another phase or revisit the co-teaching models of the phase they were working within. In this way, the development of professional relationships were enhanced and scaffolded through participation in the model presented in this study.

Restatement of the Study

Although the areas of induction, mentoring, and co-teaching have been extensively studied in the past, the use of co-teaching within induction or mentoring has remained relatively unexplored. The research problem arose from the proposed changes in the area of induction in the Irish context, coupled with changes to the agency of the traditional actors within the induction space. If the current proposed changes come into effect, the relationship amongst colleagues could be altered and so too could the way in which teachers are taught at induction level. The literature review also identified a dearth of research on the use of co-teaching at the induction level of teacher education. The research problems identified that there was a gap in the literature regarding the use of co-teaching as a pedagogy at induction level, that the context of induction in Ireland was in flux, and that there was

potential for change to the proposed new model of induction level education to affect professional relationships of mentors and NQTs.

The research questions, which were formulated in light of the literature review and methodology, were primarily stated as - ‘How does co-teaching in induction impact on newly qualified teachers and their mentors?’, with a secondary question considered - ‘How does co-teaching influence the mentor – Newly Qualified Teacher relationship?’. The research design of CAR was implemented through a critical inquiry approach to address the research questions.

The findings from the data analysis would suggest that co-teaching affected mentors and NQTs in two major ways; in relation to their professional learning and development, and in relation to their professional relationship. The major findings are presented as:

- The building and maintaining of professional relationships
- Co-teaching and CAR as a signature pedagogy for induction level education
- The development of reflective practice and teacher self-efficacy
- The implications for participants’ practices.

Each of these will be briefly examined.

Major Findings and Conclusions of the Study

Co-teaching with CAR: Signature Pedagogy of Induction and Model of Professional Development.

Shulman (2005a, 2005b) identified the core elements of any signature pedagogy as having deeply engaged its participants, participants having a greater responsibility towards their learning and that of others, and participants’ application of knowledge attained to knowledge in use. This was discussed in the literature review and evidence from the data analysis identifies that co-teaching with CAR have these core elements of a signature pedagogy. The participants displayed a consistent

commitment to the study, which could be argued was due to the participants' deep engagement in the process of co-teaching and in CAR, fostered by their mutual engagement in communities of practice. They displayed a responsibility towards their learning and that of others in the data analysed and the process reflects this transformation into a community of practice through their joint enterprise. This also reflects Kearney's (2015) proposition that an effective induction level education relieves the stress of NQTs and assimilates them in such a way as to focus on professional learning throughout the teacher's career and quality teaching and learning in the classroom. This study proposes that, not only did NQTs benefit from their greater responsibility towards their learning and that of others in this process, but that the mentors did as well. Evidence shown in the previous chapter also suggested that the participants used their knowledge of co-teaching and of the reflective practices of CAR and put them into use outside of the remit of the study. Participants were noted in the previous chapter to have applied their co-teaching approaches to other areas of their teaching outside of the study, displaying how they transitioned from knowledge attained about co-teaching and CAR to knowledge in use. Additionally, it was noted that participants used their knowledge of co-teaching and CAR to begin working with other colleagues outside of the study participants, which shows that the participants considered the learning of others when applying the knowledge that they had attained about co-teaching and CAR into use in new contexts. It is proffered here that co-teaching with CAR can be considered a signature pedagogy of teacher education.

Furthermore, as the participants have been enabled to increase their "capacity for professional autonomy" (Kennedy, 2005, p. 246), via the model for the development of professional learning and professional relationship building through co-teaching with CAR, it is argued here that the model presented in Figure 7 fits within the transformative model of Kennedy's (2005) framework for analysis of professional development. Kennedy (2005) argued that, for a model of professional

development to be transformative, it also needed to enable reflective practices and consider the varying contexts that can affect teachers' learning. This will be considered in the next section.

The findings of this study and the development of the model for the development of professional learning and professional relationship building through co-teaching with CAR has significant implications for the learning and professional development of teachers after ITE, particularly in the Irish context, where there is provision for a new process of engaging teachers in induction.

Developing Reflective Practice and Teacher Self-efficacy through Co-teaching with CAR.

The model for the development of professional learning and professional relationship building through co-teaching with CAR had reflective practice embedded in its structure. Participants within this study created two communities of practice, where reflective practices were shared and collaboration took place to problem solve and decide on actions to affect professional practices. This type of professional learning falls into the category of transformative professional development. Kennedy (2005) argues that such models of professional development must engender reflective practice and acknowledge the variety of circumstances that can affect a teacher's learning, as already noted. The use of co-teaching with CAR allowed participants to begin to learn to reflect and to put these reflections into practice and action through the community of practice created by CAR. Reflecting on practice is crucial to the process of professional learning for teachers (Loughran, 2002). CAR allowed the participants to attend to two of the key functions of reflective practice, identified by Brookfield (1995), that is to explore the assumptions a teacher might have about teaching and consider the practices and experiences of other teachers so that teachers "discover that what we thought was our own idiosyncratic difficulty is actually an example of a wider structural problem or cultural contradiction" (p. 219). The co-reflections allowed the participants to reflect as a group on

shared problems and created an opportunity for shared problem solving through their mutual engagement in the process. The findings of this study have shown that with this practice beginning as a group, the participants developed the trust, respect, and communication skills that enabled them to raise their concerns, issues, or challenges at meetings and apply the practices of co-reflection to individual reflection and with a co-teaching partner in their school-based communities of practice.

It was noted in the literature review that teacher self-efficacy can impact very positively on pupil learning, motivation for professional learning, occupational stress and job satisfaction (Bandura, 1997; Bruce & Flynn, 2013; Goddard, Hoy, & Hoy, 2004; Morgan & O’Leary, 2004; Skaalvik & Skaalvik, 2010; Swackhamer, Koellner, Basile, & Kimbrough, 2009). The data presented here suggested that participants within this study had a positive relationship with the process of co-teaching, which added to their professional practices, with the use of CAR as a fora for professional reflections, discussions and collaboration. This would suggest that it heightened their levels of teacher self-efficacy and would agree with to the findings of Voss and Bufkin (2011), who found that teachers who engaged with co-teaching at ITE also had a higher level of teacher self-efficacy. It is, therefore, concluded that teachers who engaged with co-teaching at induction and CPD levels of teacher education can also achieve a higher level of teacher self-efficacy.

Implications for Individual Professional Practices.

Both mentors and NQTs spoke of their anticipation to learn from the process of co-teaching and working alongside a colleague. The reflective journals, interviews, and field notes data illustrated that both felt that they had learned many things from their co-teaching partners. Predominantly, the data revealed that participants described learning to reflect on their professional practices in a more focused, deliberate, and critical way for the purposes of improving those practices for their classrooms and to share with other colleagues. Data also indicated that the mentors all shared the belief that they

had added to their professional learning and their professional practices from co-teaching with a NQT. This reflects the research from Kearney (2015) who suggests that collaboration with experienced teachers - in this instance mentors - allowed NQTs to contribute back to the community of practice within which they find themselves and that this is fundamental to a successful induction programme.

A significant finding of this study lies with its impact on the calendar of concerns or issues (Fuller, 1969; Moir, 1999) for NQTs. The change perceived in the professional practice of the NQTs in this study differed greatly than is usually expected of NQTs during their induction phase. A calendar of concerns for NQTs by Moir (1999) depicted that NQTs will experience a level of anticipation for beginning to teach prior to the first term, falling to survival and disillusionment by the end of the first term and early into the second term. It is not until the end of the third school term that NQTs appear to regain their levels of anticipation similar to the levels at the height of the beginning of the school year. Moir (1999) indicates that an NQT must pass through the process of reflection to begin to develop a sense of anticipation about teaching yet again. Contrary to Moir's (1999) calendar of concerns, the NQTs in this study displayed in their reflective journals, field notes and interviews, and also their mentors' reflective journals and interviews, that they reached the stage of anticipation much sooner than the end of the third term. It is proffered here that this was facilitated by the continued process of reflecting on professional practice and that the structured model of co-teaching alongside a mentor within the communities of practice enabled the NQTs to successfully and swiftly navigate through the survival stage of the calendar. Moreover, the data analysed showed no evidence of any of the NQTs suggesting that they were experiencing any forms of disillusionment regarding teaching, learning, or their professional practices. This is a major finding of this study and has implications for the current provision of induction of NQTs.

The researcher as external collaborator also benefitted from the process. The shared learning was of benefit to me as a practitioner. The collaborations added to my professional practice through observing co-teaching partners at every stage of their co-teaching tasks in their own contexts; each was different to my own. The co-reflections and shared repertoire of the both school-based and external communities of practice included the external collaborator and so it became part of my own professional learning.

This study suggests that this model, presented in Figure 7, enabled the participants and researcher to build and maintain their professional relationships and the process of co-teaching with CAR facilitated the reflective practices that affected their professional learning.

Strengths and Limitations of the Study

Strengths of the Study.

This study had a number of strengths, including prolonged engagement, school type, CAR as a methodology, and the number of data collection tools.

One of the main strengths of this study was the prolonged and sustained engagement with the participants over the course of the full school year. This approach led to the establishment and development of a relationship between the researcher and the participants that was conducive to each becoming acquainted with the other, in such a way as to share openly their experiences, skills and knowledge and develop communities of practice. This allowed the researcher to engage the participants openly in discussions and reflections that probed and pursued ideas regarding professional relationships, professional practices, and the experiences of co-teaching and CAR as part of the induction process. The relationship was created and explained to the participants as one where the researcher would facilitate the process, but that the participants would proceed through it, decide upon actions to be taken, and guide reflections and learning. This provided a platform where the

participants were given agency over the research. This sense of ownership, status within the relationship, and commitment to the research, aided each participant to remain in the process until its completion, despite the additional requirements of time and paperwork on an already demanding process of induction for both mentors and NQTs.

The breadth of school types present in the research is also a strength of this study. The participants taught in co-educational, single-sex, junior and full vertical schools, urban and rural schools, special school, and DEIS school settings. One school was also participating in the pilot model for induction, *Droichead*. This range of context offered richness to the data. The application of co-teaching with CAR in so many settings spoke to the value teachers saw in this process from such a variety of schools and the readiness of teachers to apply it irrespective of school context.

This study utilised a CAR approach to address the research questions posed. This methodology was cognisant of the importance of the role of the participants within the process as being the agents for change and action. Equally, the researcher had a role to play in facilitating the action, change, and reflection integral to the action research. Thus, this methodology gave greater insight into the research topics being addressed.

The variety of data collection tools can also be viewed as a strength in this study. Issues raised and discussed in first round interviews could be revisited or addressed at CAR cycle meetings. Moreover, these discussions and reflections on these discussions had the opportunity to be re-examined at various points and in various formats in the other data collection tools. This allowed participants many platforms to express their experiences, challenges, and professional development in a narrative-rich manner.

Limitations of the Study.

The study also had a number of limitations; the role of CAR, the impact of the sample size, role of researcher bias, and participants' self-selection to participate.

It should be stressed that this study has been primarily concerned with the impact of co-teaching as a pedagogy of teacher education at induction level within the methodology of CAR on NQTs and their mentors. The impact of co-teaching has not been considered without the considerable influence of CAR on the reflective practices at the centre of the professional relationship and professional learning. Thus, the findings of the study are limited to understanding them in the context of the use of co-teaching within the structure of CAR. This is not to state that co-teaching could not be an effective model for induction without CAR. However, it is the belief of the researcher that the role of an external collaborator within the process was imperative to effective and on-going co-reflection.

Schofield (2007) proffers that multi-site studies may potentially increase the generalisability of qualitative work. There were four sites being targeted for this qualitative work, which should aid in gathering data that could be generalizable. However, the findings of the study are restricted to that of a small group of teachers. The number of participants was insufficient to make any generalisability to all mentors or NQTs. Cohen et al. (2011) suggest considering qualitative research and its generalisability as “working hypotheses” (p. 243) and ideas that are works in progress. Thus, it is suggested that this particular limitation of the study be considered as an area for future research.

The findings regarding the creative responses to challenges of time and staffing should not be read as evidence to suggest that this is a model that could be put into place without proper resourcing of both professional development and time. These findings are limited to that of a small number of schools in various settings. Although the variation of settings is a strength of such a small scale study, they are not indicative of all school types present in the Irish context. Unfortunately, the nature of the

data does not allow us to determine whether or not the creative responses - the use of classroom proximity, teachers in dual role of mentor and in-class support teachers, use of shorter infant school day etc - for the purposes of this study could be applied in other school types. Indeed, the influence of context, such as school management and leadership, class allocations and responsibilities and school size would appear to have a strong bearing on the creative responses from the participants within this study. The study was limited in the scope of interrogation that it could have into such topics.

The role of the researcher in a qualitative study can be deemed a limitation of the study in a number of ways; through bringing personal biases or idiosyncrasies (Anderson, 2010), the decisions made regarding data analysis and their potential impact on the participants during data gathering. The conceptual framework outlined the role of the researcher's experiential knowledge; however, there is no means that might "systematically eliminate bias" (Norris, 1997, p. 174). The potential for these biases to impact on the decision-making processes of the data analysis, therefore, cannot be eliminated, although the researcher put in place levels of rigour to add to the validity and trustworthiness of the data analysis, including peer review and the creation of an audit trail. The use of CAR defined the roles of participants and the researcher and the model for the development of professional learning and professional relationships through co-teaching and CAR created a shared ownership for the participants and researcher in data generation.

Each of the schools who participated in this study volunteered to do so. This was brokered to the NQT and mentor via their school principals or via the Mentor Professional Network and Education Centre, none of which were invested in or connected to the research study in any way. Each set of mentors and NQTs volunteered despite the already large workload on them for the purposes of induction alone. Although the self-selection to participate does not necessarily make them uncharacteristic of others in the induction phase, it cannot be assured that the findings here would

mirror those of all mentors and NQTs in the induction process. Rather, the findings here should be considered relatable and transferable (Bassey, 1981; Lincoln & Guba, 1985) to the process for other mentors and NQTs, rather than generalizable to them.

Implications, Recommendations and Future Research

Implications and Recommendations of This Study.

This study has several implications and recommendations in the context of teacher induction in Ireland. In the first instance, the model for the development for professional learning and professional relationship through co-teaching with CAR should be included in the new provision for teacher induction in Ireland. The recommendation that such a model has positively affected the expected first year attitudes of NQTs is also made. The over-reliance of observations has been addressed with the alternative of co-teaching and this has implications for any future model of induction at school levels. A further recommendation is made to address these and other issues identified in this study through appropriate funding and training, noting that an implementation of the model developed in this study positively impacted upon the teacher self-efficacy, professional relationships, collaboration, and practices of all participants and the external collaborator.

The study suggests the inclusion and provision of co-teaching with CAR as a signature pedagogy of induction level education within the Irish context. This should be implemented by means of the model for the development of professional learning and professional relationships through co-teaching with CAR as developed in this study and presented in Figure 7. As discussed in the literature review, the process of induction is undergoing change and the current proposals could benefit from the inclusion of this model, offering an advancement on observations, promoting the professional development and learning of mentors and NQTs and external collaborators and enhancing and progressing the growth and development of professional relationships in schools. Darling-Hammond

and Mc Laughlin (2011) suggest that for policies pertaining to professional development to be effective they must “keep pace with new ideas about what, when, and how teachers learn and must focus on developing schools’ and teachers’ capacities” (p. 81). This study has highlighted a new model to develop the learning, collaborative and collegial capacities of teachers during the induction process.

The data suggests that CAR may be an important factor in creating a structure that enables NQTs and their mentors to progress through the induction process in such a way as to limit the areas on the calendar of concerns for NQTs (Moir, 1999), which cause the greatest disenchantment and stress for NQTs in their induction year. As has been discussed, the mutual engagement, joint enterprise, and shared repertoire present in their communities of practice and the individual reflections at the end of each cycle appear to promote the NQTs to stages of reflection and anticipation at a quicker pace than is traditionally expected.

The study argues for a change in over-reliance upon observation of NQTs by their mentors as the primary ‘induction activity’. Furthermore, this study recommends that observations are only the first step in creating and developing professional relationships between a mentor and NQT and their professional learning. Mentors in this study stated that they needed the observations to understand and learn about the NQT. It is suggested here that this is also true of the NQTs; in seeing the other co-teaching partner teach, trust, communication, and understanding are developed. However, the evidence did suggest that it was only in moving forward from observations that professional learning and professional relationships developed for the participants.

If the conclusions of this study are confirmed by further research, then there will be a case for including the model for the development of professional learning and professional relationships through co-teaching with CAR in any new model for induction in the Irish context. The proposed new

Teaching Council model for induction already suggested co-teaching, professional conversations, and reflective practices as activities within the induction process. In addition, the proposed model would take place with a PST with external supports to the process from associate mentors from the NIPT, as outlined in the literature review. Therefore, the model of co-teaching and CAR, as presented in this study, could be integrated into the proposed model for induction, with professional support teams offering the opportunity to co-teach with a mentor and other members. Other members of the team, or an associate mentor from the NIPT, could fulfil the role of external collaborator, encouraging the co-reflection and offering the opportunity to share experiences in a community of practice.

It would be imperative if such a path were pursued that the allocation of training for those acting in the capacity of mentor, a support team member or NIPT associate mentor would include the models of co-teaching, CAR structures and methods, and how to implement these and the model for the development of professional learning and professional relationships through co-teaching with CAR. Additionally, these models, structures, and supports should also be disseminated to NQTs prior to embarking on their induction process.

Possible Areas for Future Research.

Possible areas for further investigation include: altering the size of the sample, attending to post-primary teacher induction, the relationship between co-teaching and induction without the use of CAR, transfer of reflective practice skills to other areas of professional learning and professional practice, impact of co-teaching with CAR on pupil learning, and issues identified by the participants such as challenges of time and staffing within school contexts.

Future research into co-teaching and CAR might focus in particular on increasing the size of the sample to elicit more data from an even broader array of schools and on a greater number of participants. This study was limited to a small number of participants for the purposes of gathering an

in-depth account from the participants of their experiences using a wide variety of data collection tools. It could not have been feasible for the researcher, in this instance, to increase the number of participants and maintain the amount of narrative-rich data collected and analysed whilst also facilitating CAR cycle meetings and school visits. Future researchers could facilitate increasing the sample size and data analysis to ascertain results from a broader set of co-teaching partners and consider the impact of co-teaching with CAR in an assortment of contexts.

Without further research into the use of co-teaching with CAR with post-primary participants, it will not be possible to ascertain how such a model might be implemented in this sector. Currently, the post-primary sector is engaged in a pilot of the *Droichead* model for the induction of NQTs into post-primary teaching. It would be of benefit to replicate the research questions posed in this study on post-primary NQTs and their mentors, to investigate how the findings might concur and differ with the evidence and findings of this study, prior to the completion of the *Droichead* pilot and prior to any implementation of a new model for induction at post-primary.

One avenue for further study is research into the use of co-teaching models without CAR. A study could investigate the use of co-teaching using traditional action research. This would exclude the use of an external collaborator or collaborations and sharing with others in the process of co-teaching at induction level. This elimination would appear to have negative effects on the model for professional relationship building, as there is no longer a component of co-reflection. Evidence was shown here that co-reflection and participation in CAR activities were integral to the process of furthering the professional relationships within this study. Future research could examine the role of collaboration in professional relationship building.

Teachers are not likely to reflect critically amongst a community of learners, according to Smith (2012). As discussed in the literature review, Brookfield (1995) suggests that the culture of

secrecy, individualism, and silence compound teachers' reluctance to reflect as part of a professional community. However, it is evidenced here that the participants did reflect within a community of practice. Dedicated time was allocated to creating a forum for co-reflection and an external collaborator facilitated the process. It has been noted (DuFour, 2007; Guskey, 1995; Killion & Roy, 2009; Schön, 1983, 1987) that reflection is key for professional learning to have an impact on professional practice. The participants were presented with a structure and format within this study, in the form of CAR, to apply professional learning to their professional practices after a period of reflection. Darling-Hammond and McLaughlin (1995) specify the importance of allocating time for teachers to participate in such reflective practice to enable professional learning. An area of further research would be to examine if the participants in this study would transfer their knowledge of CAR and reflective journaling from this process to other areas of their professional learning and professional practice.

Another area identified for further research is the impact the model of co-teaching with CAR could have on pupil learning. The impact of this study focused on teachers; the impact on their professional learning, their professional practices, their professional relationships, and the impact of co-teaching and CAR on their induction experience. Additionally, it was suggested that participation in this study could have increased teacher self-efficacy, which other research has stated to have positive impacts on pupil learning and attainment. Further research could be conducted to ascertain the impact of co-teaching and CAR for teachers and their pupils or focus directly on the impact on pupil learning and attainment.

As has been stated, there is a dearth of literature on the use of co-teaching as a pedagogy of induction level education for teachers. There is no known literature on the use of co-teaching and

CAR for the purposes of induction level education for teachers. Therefore, this is an area that is ripe for further and future research.

Conclusion

Having conducted a review of the literature and considered the context, this study considered the research question - 'How does co-teaching in induction impact on newly qualified teachers and their mentors?' - and the secondary research question - 'How does co-teaching influence the mentor – Newly Qualified Teacher relationship?' The researcher identified the theoretical perspective and epistemology which led to the choice of CAR as the methodology used to address the research questions. The conceptual framework has been woven throughout the data analysis; models of co-teaching, CAR, professional development analysis, elements of communities of practice, and the role of the researcher and participants are identified throughout the findings, in the structure of the data analysis and in the presentation of the findings.

This study has made three major contributions to the literature regarding learning and teaching at induction level of teacher education. The participants were both mentors and NQTs and the application of co-teaching was cognisant of both of these actors in the induction process. Thus, the study contributed doubly to the understanding of co-teaching for professional learning of teachers at induction level education and as continuous professional learning. Moreover, the use of co-teaching with CAR had not been found in the literature, with relatively little regarding the use of co-teaching during the induction process. As a result, the findings here should enhance the knowledge of the shared learning processes, professional relationships, and reflective practices that could be utilised as part of an effective model of induction. Finally, this study created, implemented, and analysed the use of a model for the development of professional learning and professional relationships through co-teaching and CAR. As the context and model of induction are set to change in Ireland, consideration

should be given to addressing the role of colleagues in these changes. This study begins this consideration to move away from the modus of the traditional model, which relies heavily on observations. Furthermore, the model for the development of professional learning and professional relationships, through co-teaching and CAR, creates an opportunity to seize the collaborative and reflective practices asserted by the Teaching Council (2011) and to be truly innovative and effective within the continuum of teacher education.

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Appendix A: Plain Language

Statement for the Study

ST PATRICK'S COLLEGE DRUMCONDRA

Plain Language Statement

I. Introduction to the Research Study

This research study aims to introduce Newly Qualified Teachers (NQTs) and the Professional Support Team (PST) to co-teaching as a way to implement the induction process in schools. It aims to address issues of a power imbalance arising from colleagues in schools working with an NQT to establish their readiness for full registration with the Teaching Council. Another aim of the project is to utilise co-teaching as a strategy which PST may employ to fulfil the role of inducting a NQT into the profession. The research study will follow an action research design which involves introducing co-teaching as a change in schools, implementing this change, reviewing and evaluating the change and identifying the next steps which could be taken for the change to be more effective, practical, feasible etc.

II. Details of what involvement in the Research Study will require

Participants will be asked to attend support meetings in the Education Centre twice a term for one academic year. Participants will participate in a workshop on co-teaching, the key concepts and what co-teaching might look like in practice in the first meeting. Following this the participants will be asked to implement co-teaching model within the induction process in school. A review and evaluation of this process will take place after time has been allowed for the participants to implement co-teaching. The participants will be asked to advise how best to proceed and what changes, adaptations or improvements need to be made to the co-teaching model they implemented. It is envisaged that these adaptations and reflections on the implementation will be facilitated at support meetings.

Participants will be interviewed prior to first support meeting and following the completion of the research study. Participants will be asked to record their use of co-teaching in a reflective journal.

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

There is the potential for the participants to experience embarrassment whilst co-teaching with another colleague. However, part of the implementation of change in the form of co-teaching will be to foster shared responsibilities and a

feeling of trust and open communications between colleagues and it is anticipated that this will lessen the potential for participants to feel embarrassment.

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

It is hoped that as part of using co-teaching that the participants involved will add to their current practice in engaging in co-planning, co-teaching and co-assessing their work and that this will aid in fostering professional conversations. It is envisaged that pupils in the classes of the participants involved will benefit from co-teaching scenario.

V. Advice as to arrangements to be made to protect confidentiality of data, including that confidentiality of information provided is subject to legal limitations

Every effort will be made to ensure the confidentiality of data. However, participants are advised that due to the small scale nature of the research anonymity cannot be guaranteed. Participants are also advised that confidentiality can also only be maintained within the limitations of the law.

VI. Advice as to whether or not data is to be destroyed after a minimum period

Data will be stored on USB Key under lock by Ciara Uí Chonduibh for three years after which time it will be destroyed by Ciara Uí Chonduibh.

VII. Statement that involvement in the Research Study is voluntary

Involvement in this research study is voluntary. Participants may withdraw from the study at any point. There will be no penalty for withdrawing before all stages of the study are completed.

If participants have concerns about this study and wish to contact an independent person, please contact:

REC Administration,

Research Office,

St Patrick's College,

Drumcondra,

Dublin 9.

Tel +353-(0)1-884 2149

research@spd.dcu.ie

Appendix B: Informed Consent Form for the Study

ST PATRICK'S COLLEGE DRUMCONDRA

Informed Consent Form

I. Research Study Title

How is the pedagogy of co-teaching used by mentors and newly qualified teachers in the induction phase of the continuum of education for teachers?

II. Purpose of the Research

The research in this project endeavours to use a pedagogy, co-teaching, which is being used in school practice as well as in ITE programmes to ascertain if:

- A) Co-teaching is a pedagogy which can be used by PST who are implementing the new model for induction and probation in schools.
- B) Co-teaching can address issues of power differentials amongst newly qualified and experienced teachers engaged in the new model for induction and probation in schools.

III. Requirements of Participation in Research Study

Participants will undertake a workshop on co-teaching, the key concepts and what co-teaching might look like in practice. Following this the participants will be asked to implement co-teaching model within the induction process in school. A review and evaluation of this process will take place after time has been allowed for the participants to implement co-teaching. The participants will be asked to advise how best to proceed and what changes, adaptations or improvements need to be made to the co-teaching model they implemented. Participants will be interviewed prior to first support meeting and following the completion of the research study. Participants will be asked to record their use of co-teaching in a reflective journal.

IV. Confirmation that involvement in the Research Study is voluntary

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

Arrangements to protect confidentiality of data, including when raw data will be destroyed, noting that confidentiality of information provided is subject to legal limitations.

Data will be stored on USB Key under lock by Ciara Uí Chonduibh for three years after which time it will be destroyed by Ciara Uí Chonduibh.

VI. Participant – Please complete the following (or an appropriately phrased variation) (Circle Yes or No for each question).

Have you read or had read to you the Plain Language Statement? *Yes/No*

Do you understand the information provided? *Yes/No*

Have you had an opportunity to ask questions and discuss this study? *Yes/No*

Have you received satisfactory answers to all your questions? *Yes/No*

VII. Signature:

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

Participant's Signature:

Name in Block Capitals:

Witness:

Date:

Appendix C: Semi-Structured Interview Schedule for Mentors

- What is your understanding of Droichead?
- What is your expectation(s) for the induction process this year?
- How have you engaged in the induction process so far this year?
- How have you engaged in the induction process previously?
- What do you consider to be your mentoring strengths?
- Have you engaged in co-teaching in a school setting or as part of professional development?
- How do staff members express their views about important school matters?
- Are there specific teaching activities/subject areas that you feel very confident in? Why?
- Are there certain teaching activities/subject areas that you do not feel very confident in? Why?
- Is there an activity in which you need to enhance in terms of teaching?

Appendix D: Semi-Structured Interview Schedule for NQTs

- What is your understanding of Droichead?
- What is your expectation for the induction process with your mentor?
- How have you engaged in the induction process so far?
- What was your major specialism in ITE?
- Have you engaged in co-teaching as part of ITE or since beginning to teach?
- How do you feel about expressing your views about important school matters amongst the staff group?
- Are there specific teaching activities/subject areas that you feel very confident in? Why?
- Are there certain teaching activities/subject areas that you do not feel very confident in? Why?
- Is there an activity in which you need to enhance in terms of teaching?

Appendix E: Semi-Structured Interview Schedule for Final Interviews

- What is your understanding of Droichead now?
- How did your expectation for the induction process match the reality of the induction year?
- How did you find engaging in co-teaching as part of induction?
- How do you feel about expressing your views about important school matters amongst the staff group? (For NQTs)
- How do you feel about expressing your views about important school matters or classroom matters with a co-teaching partner?
- Are there specific teaching activities/subject areas that you feel very confident in now compared to the beginning of this process? Why?
- Overall impression of co-teaching as a tool for induction.
- Usefulness of teaching in a Droichead type induction process having worked within a community of practice for this study

Appendix F: Co-teaching Checklist of Murawski and Lochner (2011)

CO-TEACHING CHECKLIST				
General Educator: _____		Special Educator: _____		
Observer: _____		Date/Time: _____		
To demonstrate the following aspects of Co-Teaching:	ASK FOR ITEMS	0 – Didn't See It 1 – Saw an Attempt 2 – Saw It Done Well		
CO-PLANNING	Example	0	1	2
Lesson Plans	Lesson plans should demonstrate that both teachers have had input in instructional planning and will actively engage all students at the appropriate levels. The CTSS© Teachers' Toolbox (www.coteachsolutions.com) and the Co-Teaching Lesson Plan book (www.nprinc.com) are excellent resources for co-planning.			
Modified Materials/ Syllabi	Co-teachers who have planned together proactively will have materials ready prior to the lesson. These may include books on tape, modified assignments, close-captioned video, manipulatives, etc.			
Letters Home/Syllabi	All materials that are sent home to parents/guardians can help demonstrate that co-teachers are engaged in co-planning. They should be co-signed and express parity between teachers.			
SHARE Worksheets	Co-teachers should have completed the SHARE worksheets recommended by Murawski (2003) and Murawski and Dieker (2004).			
Problem-Solving Worksheet	Co-teachers should be able to provide evidence of problem-solving. They can use a variety of formats (notes from planning) to work through major problems together.			
CO-INSTRUCTING	What Items Should Include	0	1	2
Behavior Documentation	Co-teachers should be able to produce documentation of data they collect while co-teaching. This documentation could include behaviors, homework, tardiness, social skills, classwork and/or participation in data collection.			
Tiered Lessons	Co-teachers should be able to demonstrate how lessons are tiered to provide differentiated instruction to a variety of individual learners. Lessons should address the high, average, and low achievers.			
Class Notes	Class notes (indicate what was taught during the class & specifically what was emphasized). They also include mnemonics taught, and in some cases, modifications made.			
CO-INSTRUCTING	What Items Should Include	0	1	2
Grade Book	Administrators can ask co-teachers to provide a copy of their grade books. Even if one teacher does the actual recording of the grades, it should be evident that both teachers had a hand in grading and communicating about assessments through notes or assignments.			
Accommodated Assignments	Assignments and assessments need to be tailored to individual needs. Co-teachers should be able to provide copies of modified tests, examples of accommodations given to student with special needs, and lists of IEP requirements.			
Description of How Students Are Individually Graded	Co-teachers should have proactively discussed grading and how they will accommodate different learners. They may even have documentation of when they called or wrote parents to inform them of how the student with special needs would be graded in the class.			

CO-TEACHING CHECKLIST

General Educator: _____ Special Educator: _____

Observer: _____ Date/Time: _____

	LOOK FOR ITEMS	0 – Didn't See It 1 – Saw an Attempt 2 – Saw It Done Well		
		0	1	2
Two or more professionals working together in the same physical space.	0 = only one adult; two adults not communicating at all; class always divided into two rooms 1 = two adults in same room but very little communication or collaborative work 2 = two adults in same room; both engaged in class & each other (even if not perfectly)			
Class environment demonstrates parity and collaboration (both names on board, sharing materials, and space).	0 = no demonstration of parity/collaboration; room appears to belong to one teacher only 1 = some attempt at parity; both adults share materials and space 2 = clear parity; both names on board/report card; two desks or shared space; obvious feeling from teachers that it is "our room"			
Both teachers begin and end class together and remain in the room the entire time.	0 = one adult is absent or late; adults may leave room for time w/o reason related to this class 1 = one adult may be late but for remaining time, they work together 2 = both adults begin and end together, and are with students the entire time <i>*note – if adults have planned to use a regrouping approach (e.g., "parallel") and one adult takes a group of students out of the room (e.g., to the library), that is perfectly acceptable</i>			
During instruction, both teachers assist students with and without disabilities.	0 = adults are not helping students or are only helping "their own" students 1 = there is some helping of various students but adults primarily stay with a few of "their own" 2 = it is clear that both adults are willing to help all students & that students are used to this			
The class moves smoothly with evidence of co-planning and communication between co-teachers.	0 = all planning appears to have been done by one adult and/or no planning is evident 1 = minimal planning and communication is evident; most appears to be done by one adult 2 = it is clear that both adults had input in lesson and communicate regularly as class progresses			
Differentiated strategies, to include technology, are used to meet the range of learning needs.	0 = there is no evidence of differentiation of instruction or use of technology in the classroom 1 = there is minimal differentiation and use of technology; most differentiation appears to be focused on groups rather than individuals 2 = it is clear that adults considered individual student needs; differentiation and use of technology is used when needed to meet individual student needs, as well as that of the group			
A variety of instructional approaches (5 co-teaching approaches) are used, include regrouping students.	0 = Students remain in large class setting; Adults rely solely on One Teach/One Support or Team 1 = Adults regroup students (using Alternative, Parallel, or Station) at least once 2 = Adults use more than one of the 5 approaches (Friend & Cook's One Teach/One Support, Team, Parallel, Station & Alternative); at least one of the approaches involves regrouping students <i>*note – if teachers have been observed using other approaches in the past and only one approach is observed today (e.g., Stations), it is acceptable to recall previous observations and give a 2 for using a variety of approaches as adults have demonstrated competency</i>			
Both teachers engage in appropriate behavior management strategies as needed and are consistent in their approach to behavior management.	0 = there is no obvious plan for behavior management, nor do adults appear to communicate about how they are approaching class management; possibly inappropriate class management 1 = behavior management strategies are utilized but there is very little clear evidence of how adults have communicated about their use 2 = it is evident that adults have discussed how they will approach classroom/behavior management and adults are consistent in their approach; clear communication between adults			
It is difficult to tell the special educator from the general educator.	0 = Observer could easily determine who was the general/special educator by their language/roles/lack of parity. 1 = Observer could tell who was the general/special educator but there was a clear attempt at parity between the teachers. 2 = Observer would not be able to tell who was the general/special educator as parity was evident and adults shared the roles and responsibilities in the classroom.			
It is difficult to tell the special education students from the general education students.	0 = Observer could easily determine who were the general/special education students by their lack of integration (e.g., students at back or separated from class). 1 = Observer could tell who were the general/special education students but there was a clear attempt at inclusion of students for most activities. 2 = Observer would not be able to tell who were the general/special education students as parity was evident and adults shared the responsibilities for working with all students.			

CO-TEACHING CHECKLIST

General Educator: _____ Special Educator: _____
 Observer: _____ Date/Time: _____

	LISTEN FOR ITEMS	0 – Didn't See It 1 – Saw an Attempt 2 – Saw It Done Well		
		0	1	2
Co-teachers use language ("we"; "our") that demonstrates true collaboration and shared responsibility.	<p>0 = Adults use "I" language frequently (e.g., "I want you to ..." Or "In my class ..."), lacking parity.</p> <p>1 = Adults attempt to use "we" language and include each other, but it is clear that one adult is more used to "ruling" the class.</p> <p>2 = Adults clearly use "we" language (e.g., "We would like you to..."), showing that they both share the responsibility and students know they are equally in charge.</p>			
Co-teachers phrase questions and statements so that it is obvious that all students in the class are included.	<p>0 = Class is very teacher-directed and little involvement by students; questions/statements are general and not inclusive of all students.</p> <p>1 = A few statements/questions are phrased to encourage participation from a variety of students.</p> <p>2 = A clear attempt is made by both adults to engage all students through the use of a variety of types of questions and statements.</p>			
Students' conversations evidence a sense of community (including peers with and without disabilities).	<p>0 = Students do not talk to one another ever during class or specific students are clearly excluded from the student interactions.</p> <p>1 = Most students appear to be included in the majority of student interactions.</p> <p>2 = It is evident from the students' actions and words that all students are considered an equal part of the class and are included in all student interactions.</p>			
Co-teachers ask questions at a variety of levels to meet all students' needs (basic recall to higher order thinking).	<p>0 = Adults do not use questions or ask questions geared just to one level (to the middle or "watered down").</p> <p>1 = Adults use closed and open questions at a variety of levels in a general manner.</p> <p>2 = Adults used closed and open questions at a variety of levels in a way that demonstrates they are able to differentiate for specific students in order to ensure maximum (appropriate) levels of challenge.</p>			

Appendix G: Checklist for Co-teaching brought by Participants

Planning	Working well		Needs attention	Worth trying
Regular, short planning meetings are held.				
All teachers involved in the implementation of team teaching attend these meetings.				
Planning meetings are timetabled.				
Planning meetings have a chairperson.				
Planning meetings have an agreed agenda.				
Decisions at planning meetings are documented.				
Weekly/fortnightly planning for the subject is documented.				
School Needs				
Children at or below the 12th percentile in literacy and numeracy are prioritised for learning support.				
Senior infants, first and second classes are targeted for early intervention in literacy and numeracy.				
The learning support caseload, standardised test results, special educational needs and teacher				

observation are used to identify priority needs in literacy and numeracy.				
Team teaching is organised in both literacy and numeracy.				
A school profile of children with needs including EAL support is completed as per circular 02/05.				
Support teachers are deployed in accordance with Circular 02/05.				
Support teachers who are willing to engage with team teaching are identified.				
Class teachers who are willing to engage with team teaching are identified.				
Class Needs				
Standardised test results in reading and maths are used to identify priority classes.				
Classes in most need of support are prioritised.				
Whole class strengths and weaknesses are identified.				
Targets in IPLPs are identified.				
Class strengths and weaknesses are cross-referenced with IPLPs.				
Programme of work				
The duration of the programme of work is established.				
Available support teachers are identified.				

<p>The model of support is established, for example:</p> <ul style="list-style-type: none"> - Same content with two groups (parallel teaching) - One large and one small group (alternative teaching) - One leading and one supporting - Station teaching - Differentiated split class teaching - Joint instruction and delivery/equal responsibility (team teaching) 				
<p>Team teaching sessions are timetabled which includes the number of days and the duration of each session.</p>				
<p>Types of groupings are established, for example:</p> <ul style="list-style-type: none"> - Same ability - Mixed ability - Specific target 				
<p>Modes of assessment for before, during and after the programme are identified.</p>				
<p>Team Roles</p>				
<p>Preparatory work is evenly distributed to teachers.</p>				
<p>Classroom rules and protocols are shared with all teachers.</p>				

Responsibility for discipline and classroom management is established.				
Responsibility for record-keeping is established.				
Responsibility for assessment is established.				
Responsibility for PR with rest of staff and parents is established.				
Setting Goals				
A realistic timeframe for implementing the programme of work is set.				
. Realistic goals/targets are set.				
Modes of assessing these targets are identified.				
Methods of monitoring and evaluating the programme are identified.				
A date for evaluation of the programme is set.				

Appendix H: Observation Schedule adapted by Researcher

	Items to identify	Data Collected
Roles	Both teachers are actively engaged in the teaching/learning process for most of the lesson.	
	The specialist integrates their unique teaching expertise into the lesson.	
Professionalism	Pupils view both adults as teachers with equal authority.	
	Interactions between teachers show respect for each other.	
	Teachers feel equally responsible for what happens in the classroom.	
Communication	Teachers share responsibility for major decisions regarding the instructional cycle.	
	Teachers have time to plan lessons together and discuss issues related to instruction.	

Assessment	Both teachers are aware of lesson objectives.	
	Assessments are modified as necessary and shared by both teachers.	
Classroom Management	Various grouping arrangements are used to facilitate learning.	
	Instructional strategies are utilized that enhance the learning of pupils.	
	The instructional lead is shared.	
# of minutes in various settings	Partners	
	Multiple small groups	
	2 parallel groups	
	1 small group, 1 large group	
	Trios	
	Other	

Checklist of Observable Activities

While one teacher is:	The other teacher is:	
Teaching the whole class	Modelling note-taking on the board/overhead or Ensuring "brain breaks" to help pupils process lecture information	
Taking Roll or other Admin.	Collecting and reviewing last night's homework Introducing a social or study skill	
Handing out books etc.	Reviewing directions Modelling first problem on the assignment	
Giving instructions orally	Writing down instructions on board Repeating or clarifying any difficult concept	
Checking for understanding with large group of pupils	Checking for understanding with small group of pupils	
Circulating, providing one-on-one support as needed	Providing direct instruction to whole class	
Facilitating a silent activity	Circulating, checking for comprehension	
Providing large group instruction	Circulating, using proximity control for behaviour management	
Re-teaching or pre-teaching with a small group	Monitoring large group as they work on practice materials	
Facilitating sustained silent reading	Reading aloud quietly with a small group	

	Previewing upcoming information	
Creating basic lesson plans for standards, objectives, and content curriculum	Providing suggestions for modifications, accommodations, and activities for diverse learners	
Facilitating stations or groups	Also facilitating stations or groups	
Explaining new concept(s)	Conducting role-play or modelling concept(s)	
Asking clarifying questions	Considering modification needs Considering enrichment opportunities	

Appendix I: Reflective Journal for Mentors

Using Co-teaching as an Induction Activity

Reflective Journal for Mentors

October - June 2015/2016



Your Name:

Co-teaching partner:

Name and address of school:

	Mentor	NQT
Class		
Number of Pupils		
Number of Boys		
Number of Girls		

Other relevant pupil details:

Cycle 1

1. Brief description of the planning prior to teaching the lesson and your role.

2. What mentoring/teaching activity did you decide to focus on for this cycle? How have you included it in this lesson?

3. What was your view of the lesson? (Strengths/Weaknesses)

--

4. How did co-teaching work?

Good points	Bad points

5. Has the lesson affected your teaching activity focus?



Cycle 2

1. Brief description of the planning prior to teaching the lesson and your role.

2. What mentoring/teaching activity did you decide to focus on for this cycle? How have you included it in this lesson?

3. What was your view of the lesson? (Strengths/Weaknesses)

--

4. How did co-teaching work?

Good points	Bad points

5. Has the lesson affected your teaching activity focus?

A large, empty rectangular box with a thin black border, intended for the user to write their response to the question above.

Cycle 3

1. Brief description of the planning prior to teaching the lesson and your role.

2. What mentoring/teaching activity did you decide to focus on for this cycle? How have you included it in this lesson?

3. What was your view of the lesson? (Strengths/Weaknesses)

--

4. How did co-teaching work?

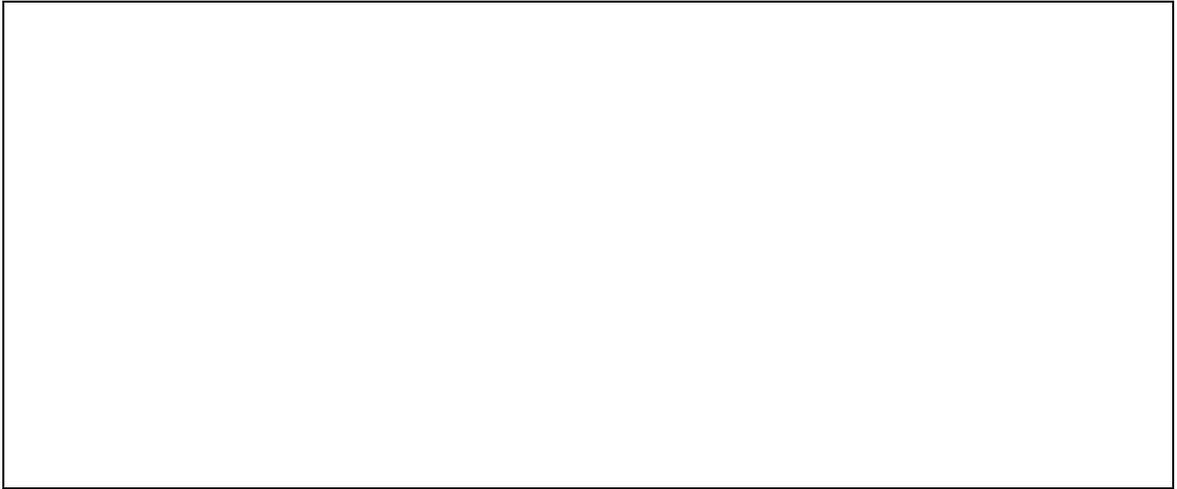
Good points	Bad points

5. Has the lesson affected your teaching activity focus?

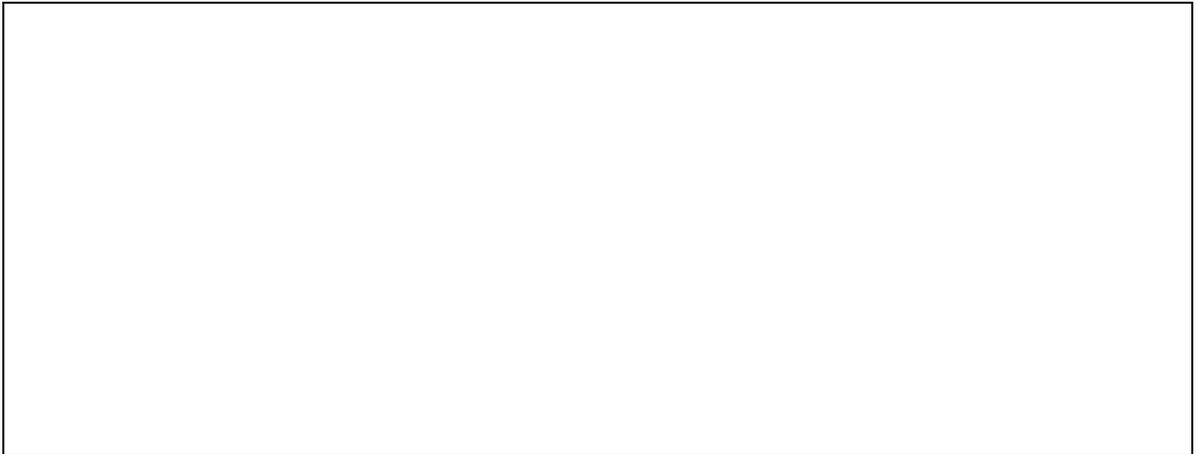


Cycle 4

1. Brief description of the planning prior to teaching the lesson and your role.



2. What mentoring/teaching activity did you decide to focus on for this cycle? How have you included it in this lesson?



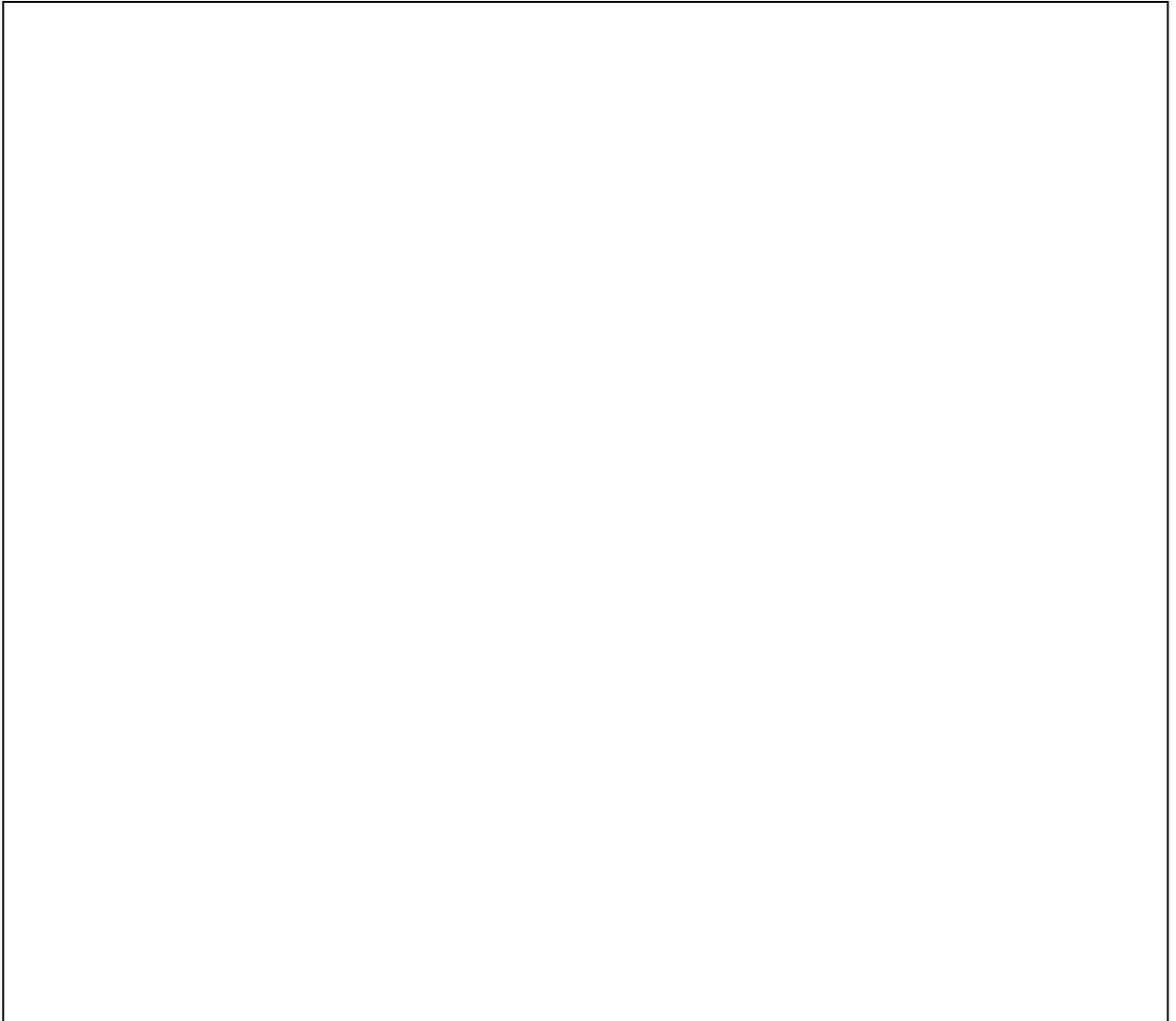
3. What was your view of the lesson? (Strengths/Weaknesses)

--

4. How did co-teaching work?

Good points	Bad points

5. Has the lesson affected your teaching activity focus?

A large, empty rectangular box with a thin black border, intended for the user to write their response to the question above.

Cycle 5

1. Brief description of the planning prior to teaching the lesson and your role.

2. What mentoring/teaching activity did you decide to focus on for this cycle? How have you included it in this lesson?

3. What was your view of the lesson? (Strengths/Weaknesses)

--

4. How did co-teaching work?

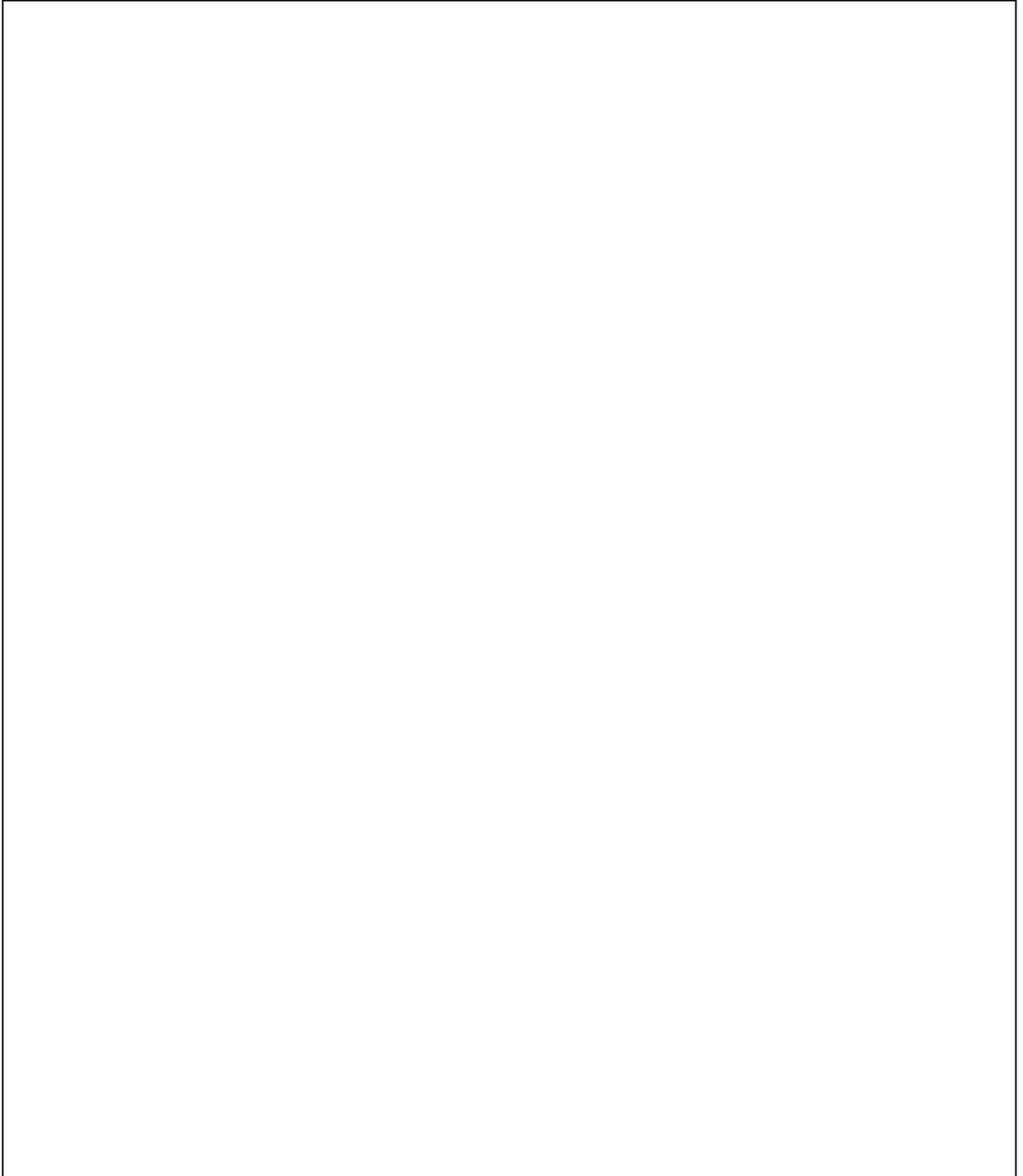
Good points	Bad points

5. Has the lesson affected your teaching activity focus?



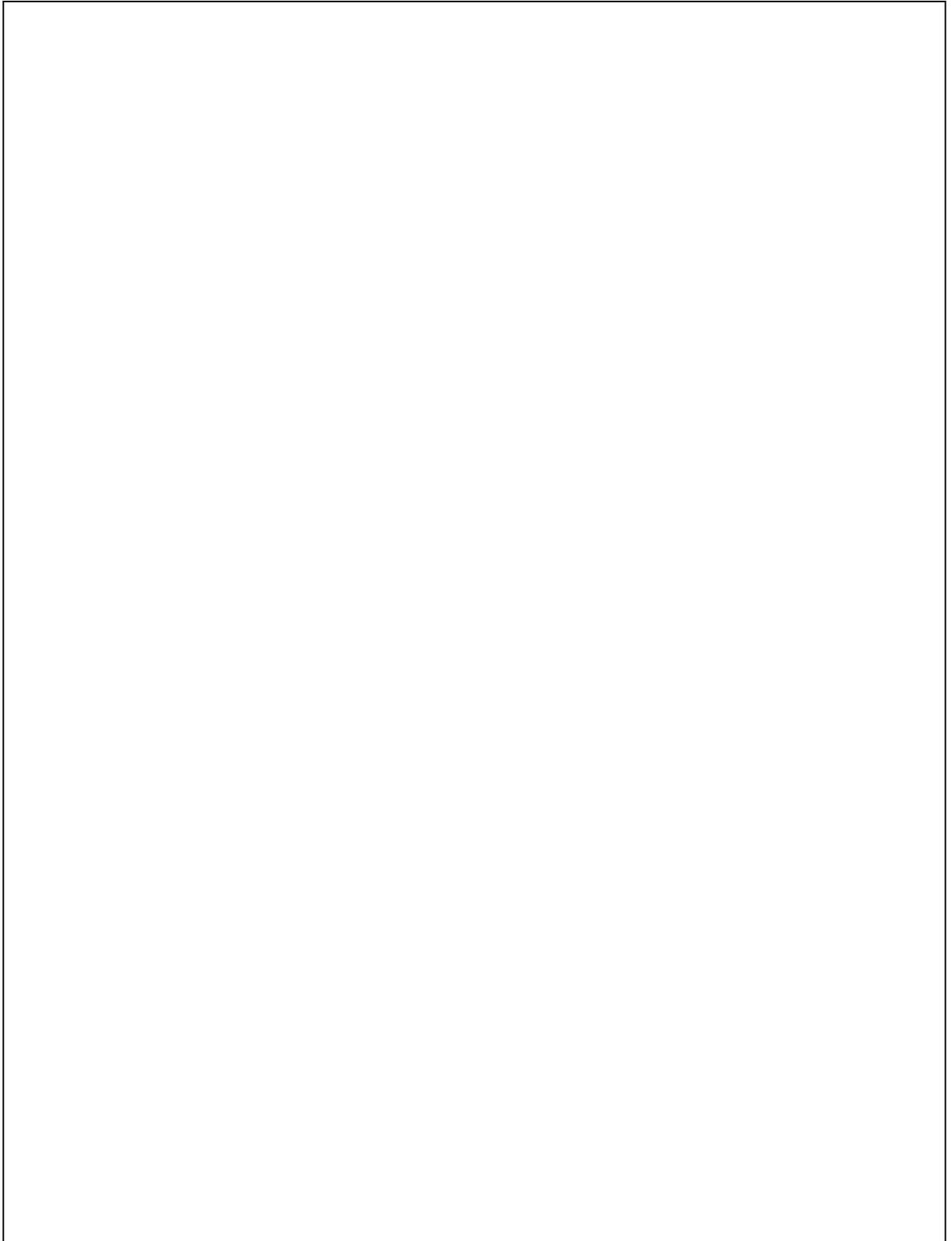
OVERALL REFLECTION

Level 1 – Surface reflection

A large, empty rectangular box with a thin black border, intended for a student to write their reflection on surface reflection.

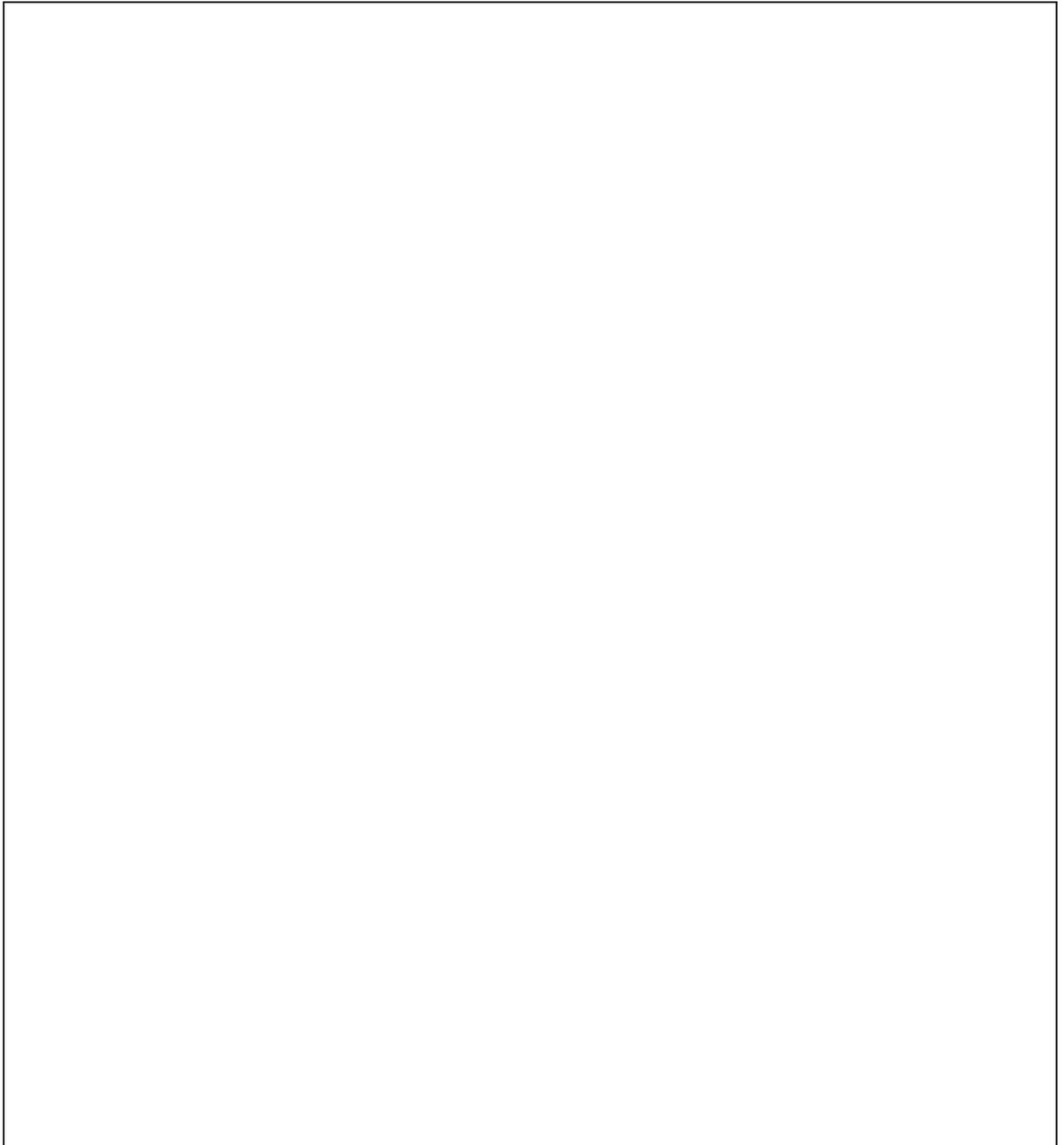
Level 2 – Pedagogical reflection

(What did I do in my mentoring role? What was the impact?)

A large, empty rectangular box with a thin black border, intended for the user to write their reflection on their mentoring role and its impact.

Level 3 – Critical reflection

(Is there anything from the project that is having an impact on your role as a mentor and the induction process in school? Evidence for this? Has there been a change in mentor/NQT interaction?)



Appendix J: Reflective Journal for NQT

Using Co-teaching as an Induction Activity

Reflective Journal for Newly Qualified Teachers

October - June 2015/2016



Your Name:

Co-teaching partner:

Name and address of school:

	Mentor	NQT
Class		
Number of Pupils		
Number of Boys		
Number of Girls		

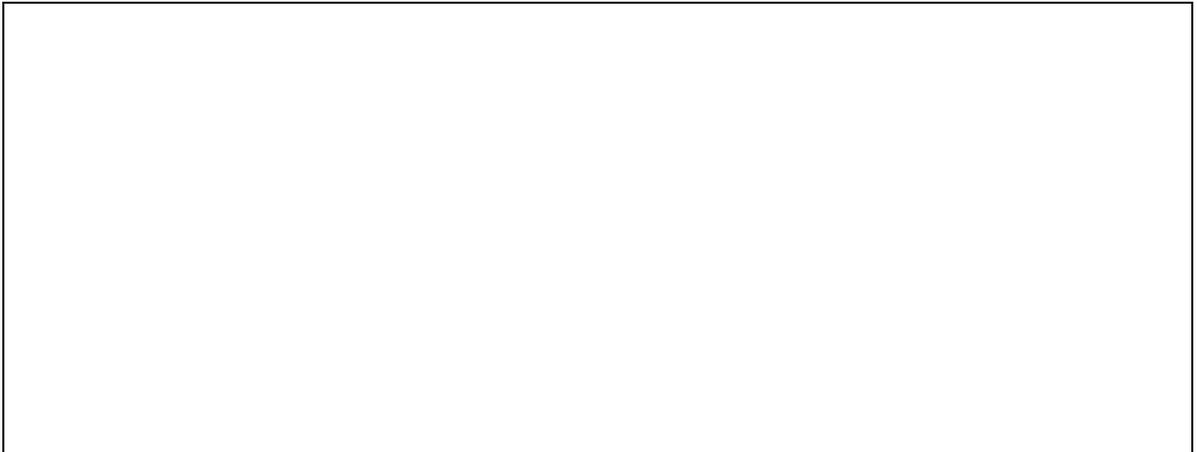
Other relevant pupil details:

Cycle 1

1. Brief description of the planning prior to teaching the lesson and your role.



2. What teaching activity did you decide to focus on for this cycle? How have you included it in this lesson?



3. What was your view of the lesson? (Strengths/Weaknesses)

--

4. How did co-teaching work?

Good points	Bad points

5. Has the lesson affected your teaching activity focus?

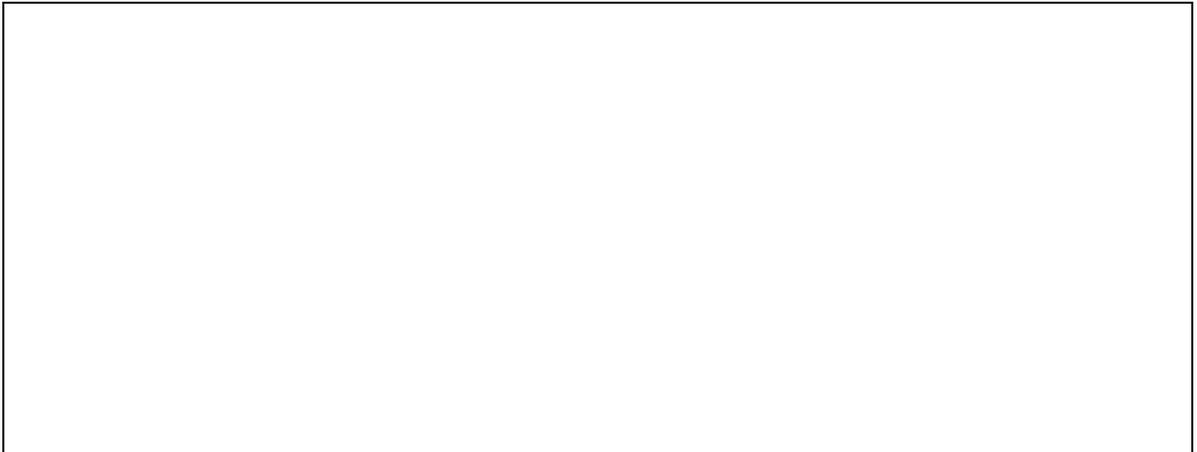


Cycle 2

1. Brief description of the planning prior to teaching the lesson and your role.



2. What teaching activity did you decide to focus on for this cycle? How have you included it in this lesson?



3. What was your view of the lesson? (Strengths/Weaknesses)

--

4. How did co-teaching work?

Good points	Bad points

5. Has the lesson affected your teaching activity focus?

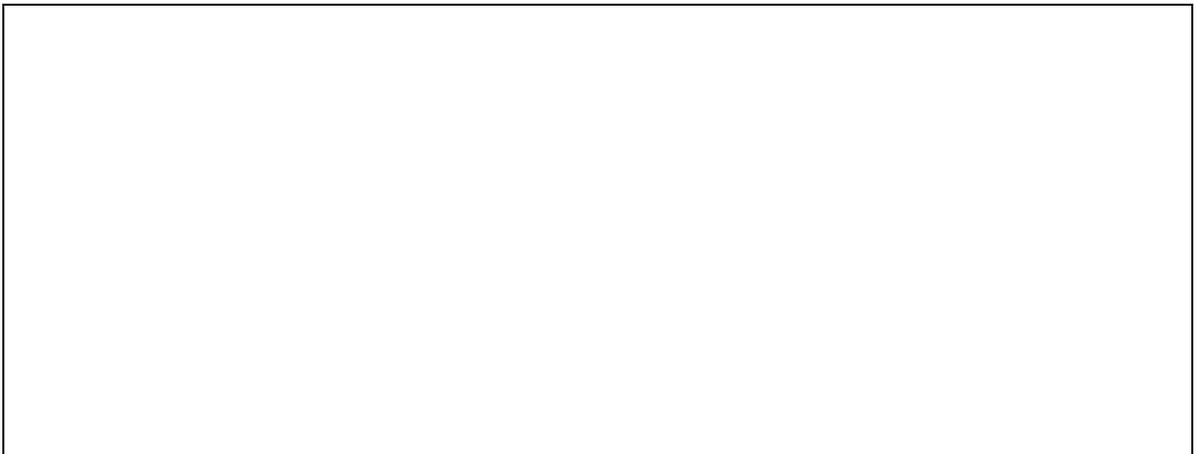


Cycle 3

1. Brief description of the planning prior to teaching the lesson and your role.



2. What teaching activity did you decide to focus on for this cycle? How have you included it in this lesson?



3. What was your view of the lesson? (Strengths/Weaknesses)

--

4. How did co-teaching work?

Good points	Bad points

5. Has the lesson affected your teaching activity focus?

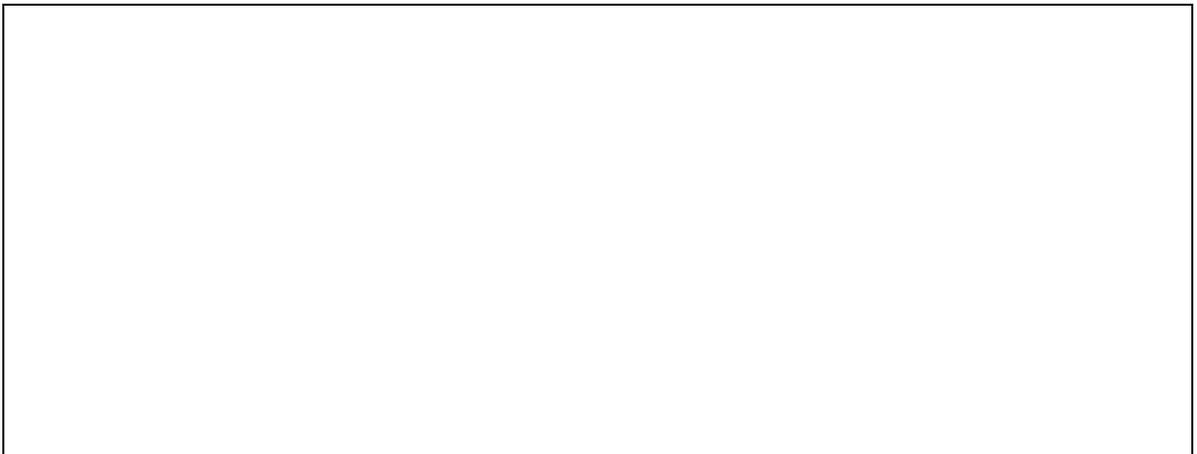
A large, empty rectangular box with a thin black border, intended for the respondent to write their answer to the question above.

Cycle 4

1. Brief description of the planning prior to teaching the lesson and your role.



2. What teaching activity did you decide to focus on for this cycle? How have you included it in this lesson?



3. What was your view of the lesson? (Strengths/Weaknesses)

--

4. How did co-teaching work?

Good points	Bad points

5. Has the lesson affected your teaching activity focus?

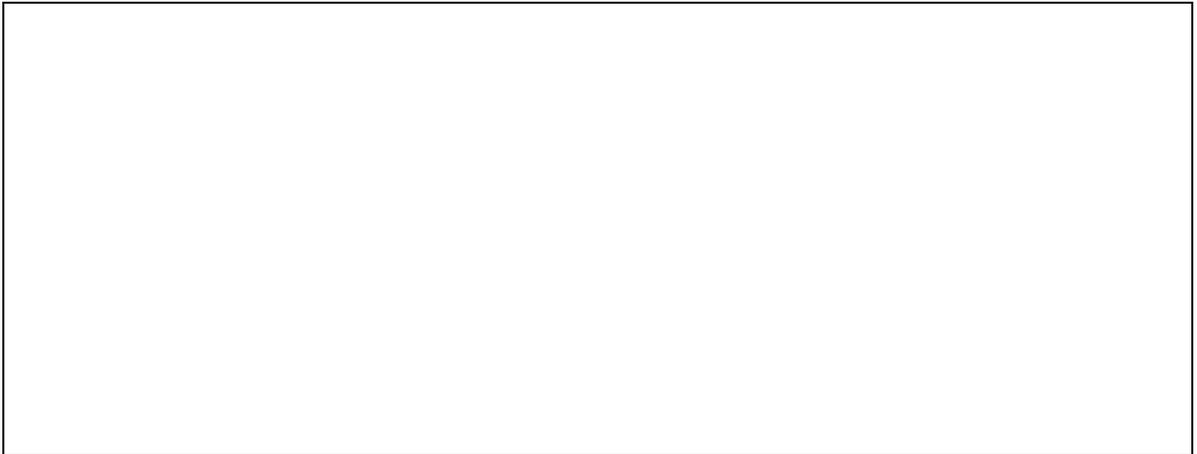
A large, empty rectangular box with a thin black border, intended for the user to write their response to the question above.

Cycle 5

1. Brief description of the planning prior to teaching the lesson and your role.



2. What teaching activity did you decide to focus on for this cycle? How have you included it in this lesson?



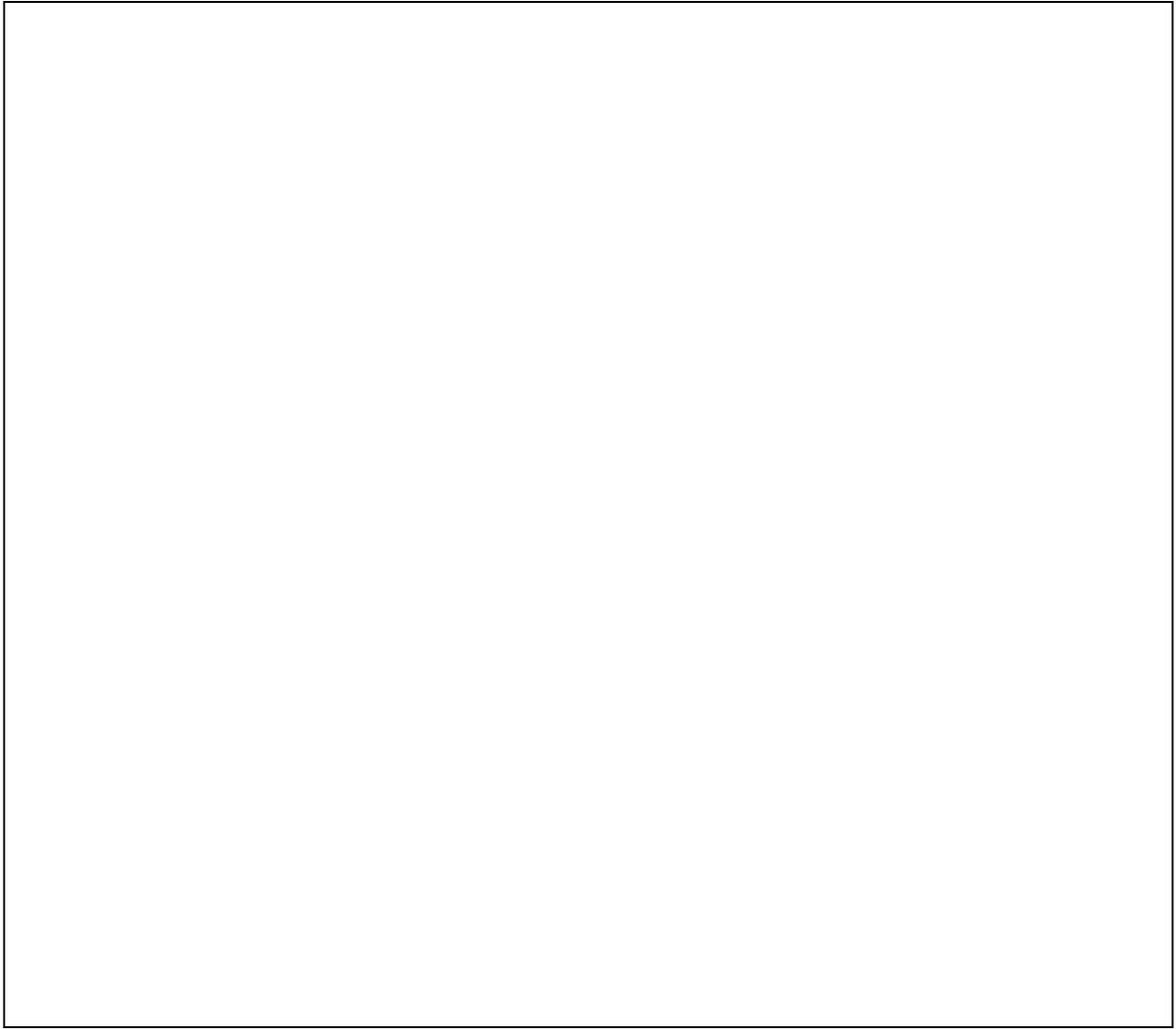
3. What was your view of the lesson? (Strengths/Weaknesses)

--

4. How did co-teaching work?

Good points	Bad points

5. Has the lesson affected your teaching activity focus?



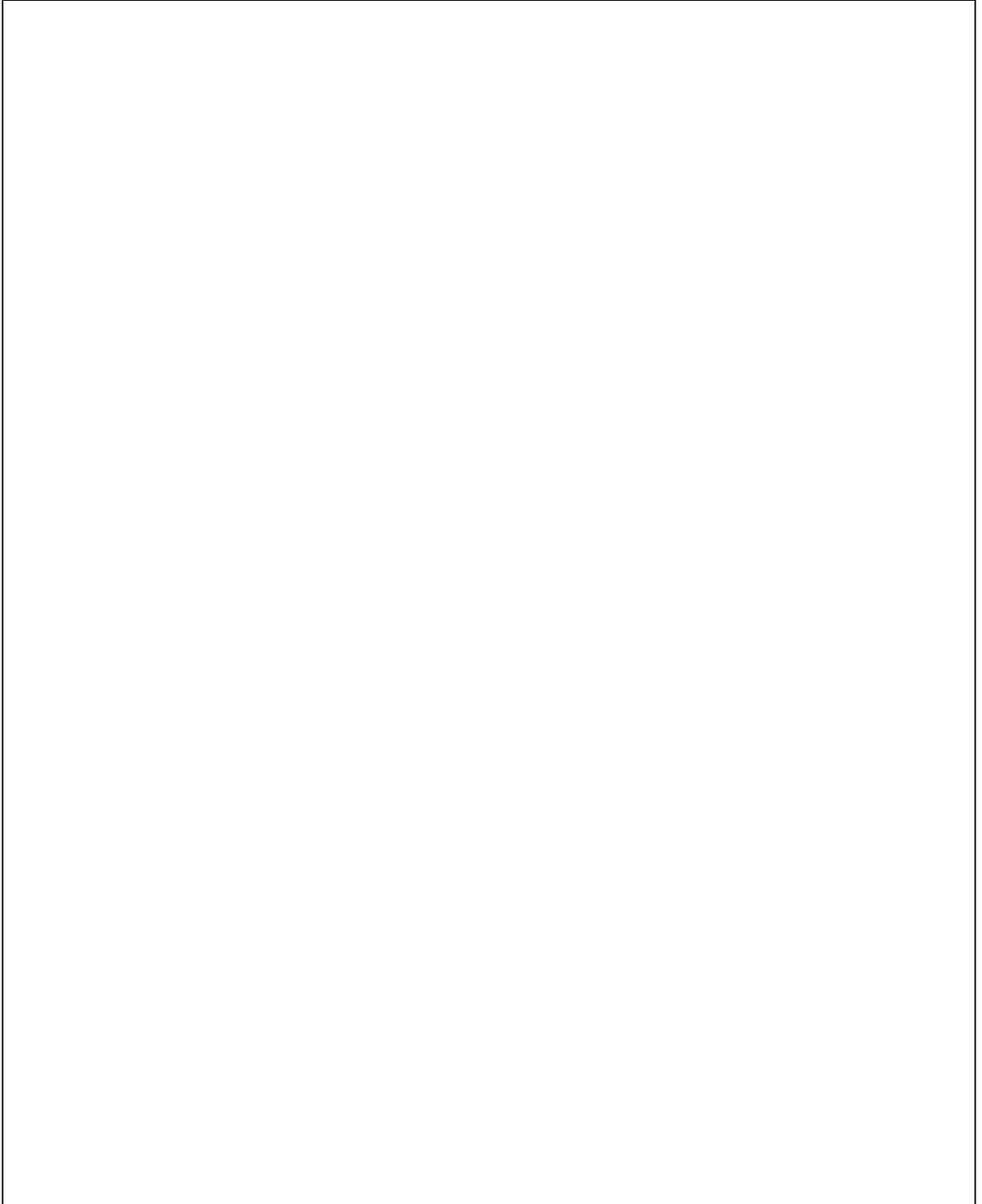
OVERALL REFLECTION

Level 1 – Surface reflection

A large, empty rectangular box with a thin black border, occupying most of the page below the section header. It is intended for the user to write their reflection on surface reflection.

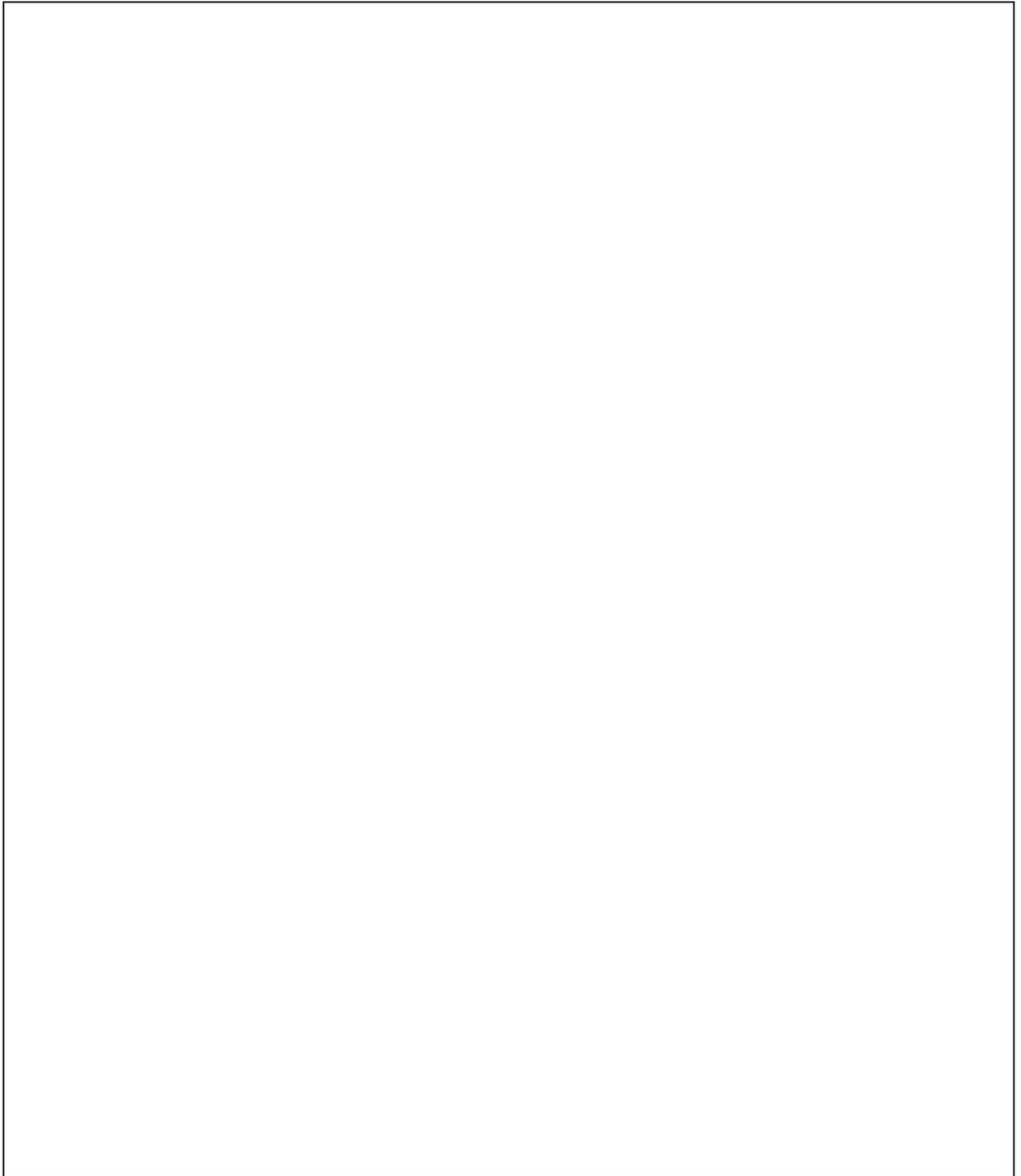
Level 2 – Pedagogical reflection

(What did I do in my teaching role? What was the impact?)

A large, empty rectangular box with a thin black border, intended for the user to write their pedagogical reflection. The box occupies most of the page's vertical space below the question.

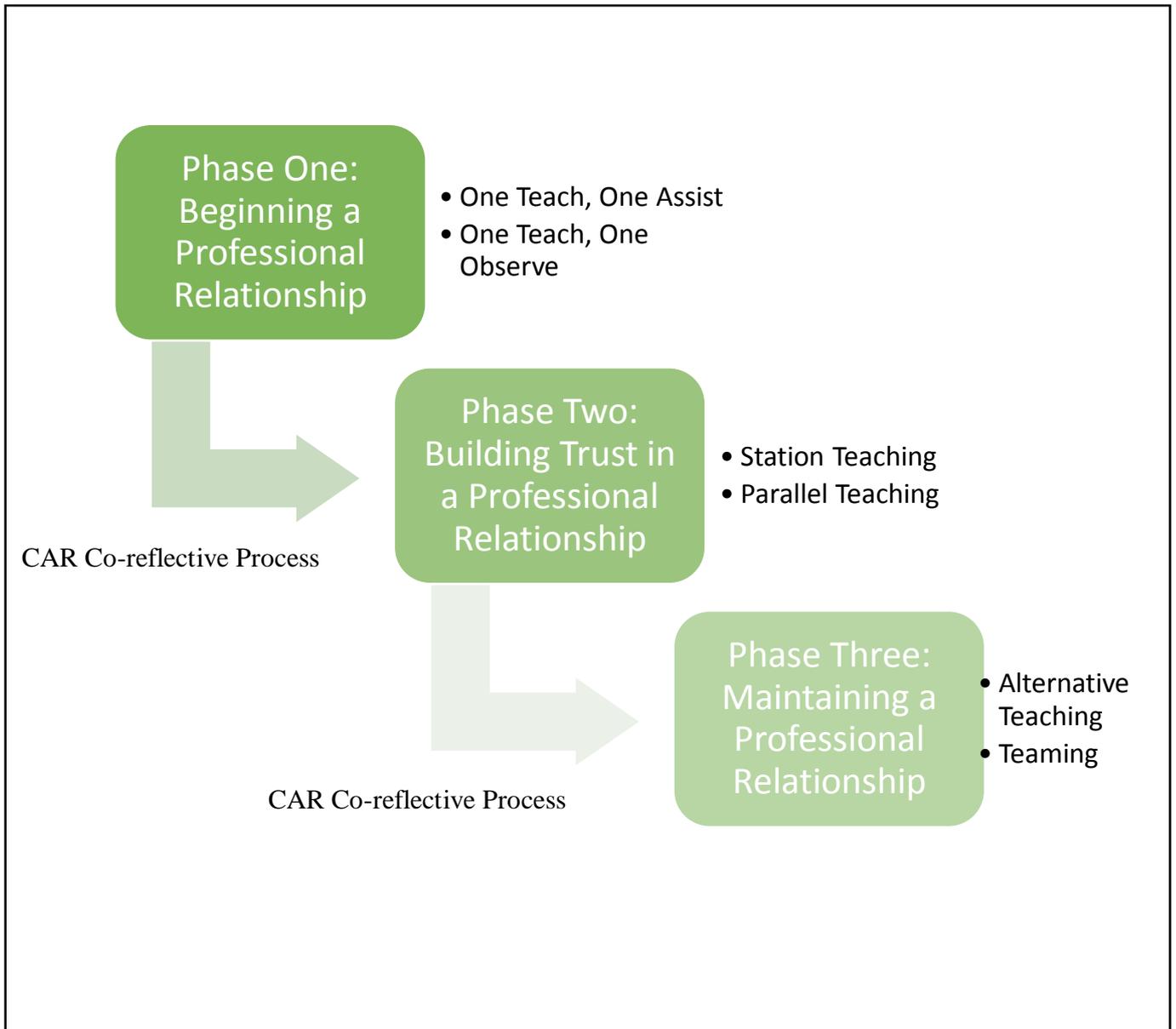
Level 3 – Critical reflection

(Is there anything from the project that is having an impact your role as a NQT and your induction learning in school? Evidence for this? Has there been a change in mentor/NQT interaction?)

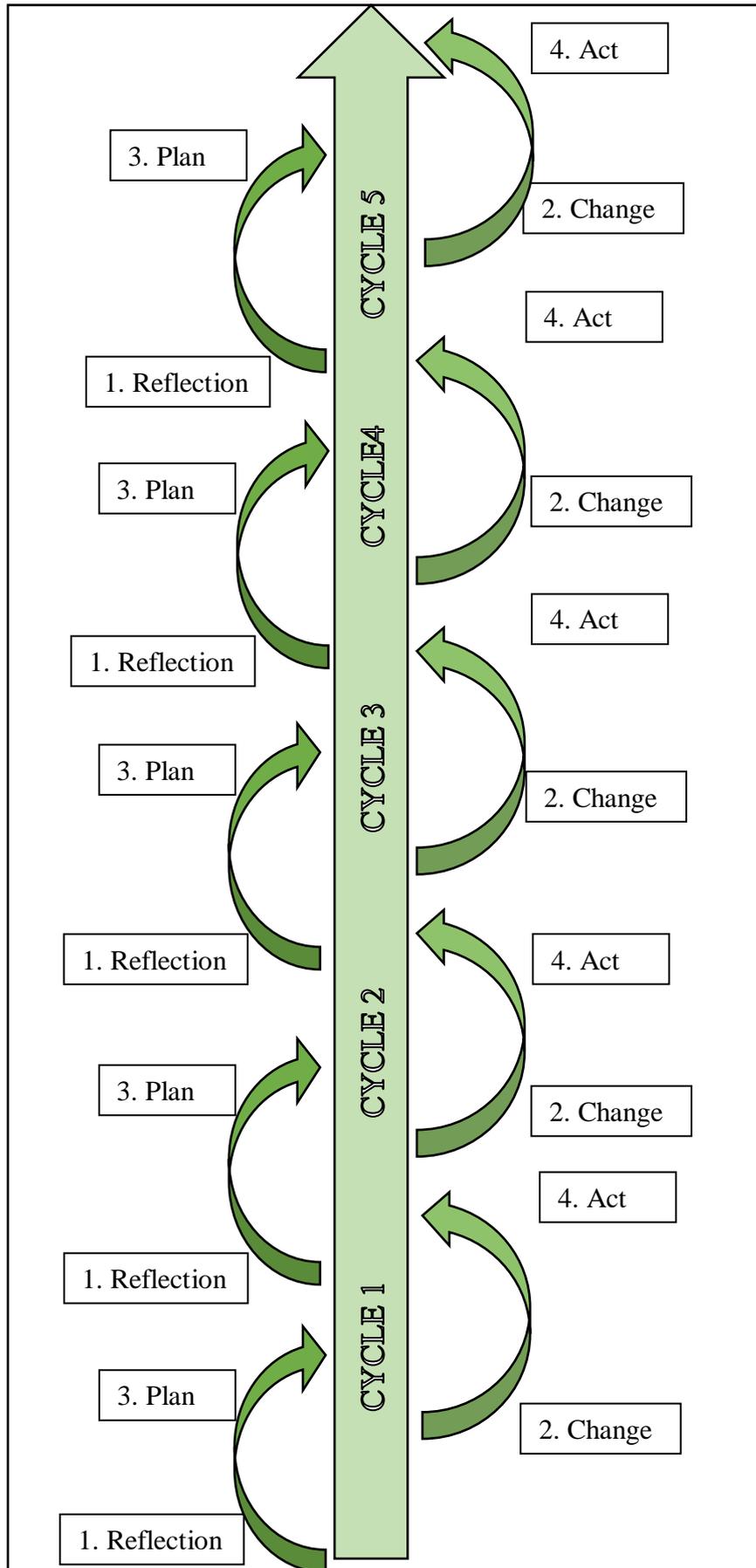


Appendix K: Two Models Prior to Incorporation into Model Presented in the Study

Professional Relationship Development Process.



Professional Development Model: CAR Cycles



Appendix L: Nvivo Codebook for Phase Three - Developing Categories

Phase 3 – Searching for Themes (Developing Categories)	Code Definitions for Coding Consistency (Rules for Inclusion)	Interviews Coded	Units of Meaning Coded
Collaborative Action Research	Mention of the use of CAR during the project	31	204
CAR	Action research cycles	20	69
Collaboration	Collaborating with other members of the group including the researcher.	29	135
Co-teaching as a Tool	Identifying the uses of co-teaching for needs of NQTs and mentors and to assist in the application of an induction process at school level	36	960
Co-teaching as observation tool for mentor	Using co-teaching to assess the NQT as part of the induction process	17	41

Phase 3 – Searching for Themes (Developing Categories)	Code Definitions for Coding Consistency (Rules for Inclusion)	Interviews Coded	Units of Meaning Coded
Power	Instances or issues of power balance or imbalance noted within co-teaching	32	166
Relationships	Using co-teaching to build a professional relationship with other staff members.	34	258
Scaffolding and Teacher Learning	Co-teaching as a way to model, teach and share professional experiences between mentor and NQTs	34	219
Shared Responsibility	Sharing of planning, preparation, delivery and assessment as well as part of co-reaching	34	276
Droichead	Understanding and application of Droichead as induction and probation.	33	365
Consistency	Issues of consistency and fairness in applying the Droichead Process	21	78

Phase 3 – Searching for Themes (Developing Categories)	Code Definitions for Coding Consistency (Rules for Inclusion)	Interviews Coded	Units of Meaning Coded
Perception of Droichead	Participants' comments about their perception of Droichead	14	26
Power	Power differentials raised or issues relating to power balance or imbalance as part of the Droichead induction process	25	91
Staff	Issues regarding staffing for Droichead process	23	117
Time	References to time in the context of Droichead process	14	52
Relationships	Issues arising for teachers as colleagues regarding relationships in school and as part of the induction process.	37	548
Collegiality	How collegiality is applied or identified by participants	33	143

Phase 3 – Searching for Themes (Developing Categories)	Code Definitions for Coding Consistency (Rules for Inclusion)	Interviews Coded	Units of Meaning Coded
Power	Issues of power arising in the relationships in schools as part of the induction process	32	112
Responsibility	Sharing or otherwise of responsibility amongst teachers and others	25	56
Staff relationships	Issues and thoughts about the impact of staff relationships in the school or induction process	32	237
Resources	Allocations or resources, such as time, training, funding for the application of induction processes in schools, locally and nationally.	37	458
Co-teaching Comments by Teachers	Co-teaching as a way of implementing induction in schools which facilitates the education, observation, scaffolding and assessment for mentor and NQT in the one instance	34	226

Phase 3 – Searching for Themes (Developing Categories)	Code Definitions for Coding Consistency (Rules for Inclusion)	Interviews Coded	Units of Meaning Coded
Staffing	Allocation of promoted posts, allowing flexibility of workload which might enable staff to facilitate induction processes in schools	29	129
Time	Time as a resource need to implement an induction process	25	102
Traditional Probation	Issues regarding the traditional route of induction an probation	19	64
Inspectorate	Ideas about the role of the inspectorate, issues arising from visits, learning from visits etc.	13	29
Probation	The process of probation as envisaged as a visit done by an external	16	35

Appendix M: Nvivo Codebook Phase Five: Defining and Naming Themes (Data Reduction)

Phase 5 – Defining & Naming Themes (Data Reduction)	Code Definitions for Coding Consistency (Rules for Inclusion)	Interviews Coded	Units of Meaning Coded
Co-teaching as Professional Learning	Co-teaching as a way to model, teach and share professional experiences between mentor and NQTs	34	344
Children's Learning	Impact of co-teaching on children's learning	7	15
Mentor Learning	Impact of participation on the professional learning of the mentors	9	36
NQT Learning	Impact of participation on the professional learning of the NQTs	13	74
Co-teaching as Professional Relationship Building		36	535

Phase 5 – Defining & Naming Themes (Data Reduction)	Code Definitions for Coding Consistency (Rules for Inclusion)	Interviews Coded	Units of Meaning Coded
Relationships	Using co-teaching to build a professional relationship with other staff members.	34	259
Shared Responsibility	Sharing of planning, preparation, delivery and assessment as well as part of co-reaching	34	276
Creative Responses to Challenges	Allocations or resources, such as time, training, funding for the application of induction processes in schools, locally and nationally.	37	639
Co-teaching Comments by Teachers	Co-teaching as a way of implementing induction in schools which facilitates the education, observation, scaffolding and assessment for mentor and NQT in the one instance	34	318

Phase 5 – Defining & Naming Themes (Data Reduction)	Code Definitions for Coding Consistency (Rules for Inclusion)	Interviews Coded	Units of Meaning Coded
Negative Comments (minus 'time' element)	Comments about co-teaching which are negative but do not relate to time	5	11
Positive Comments	Comments made about co-teaching which are positive	12	81
Staffing	Allocation of promoted posts, allowing flexibility of workload which might enable staff to facilitate induction processes in schools	29	129
Time	Time as a resource need to implement an induction process	25	191
Practical use of time	How schools managed there time	20	56
Time as a Negative	Not having enough time, unrealistic expectation due to time constraints	13	33

Appendix N: Analytical Process within Nvivo

A screen clipping of the link between a piece of coded data and a piece of literature. The 'See Also Link' highlights the coded text in pink and is linked by the researcher to a piece of literature. This process shows how external data has been considered in terms of the analysis of the data in this process.

The screenshot displays the Nvivo software interface. The top menu bar includes File, Home, Create, External Data, Analyze, Query, Explore, Layout, and View. The left sidebar shows a tree view of sources, with 'Literature' selected under the 'Internals' folder. The main window shows a search for 'Literature' with a table of results:

Name	Nodes	Reference
6-2 Cramer et al	0	0
Mentor novice teacher relationships	0	0
team teaching review final. pdst	0	0

Below the table, a 'Practical use of time' node is expanded, showing a text snippet with several lines highlighted in pink. A black arrow points from the pink highlights to the 'See Also Links' section at the bottom of the window. The 'See Also Links' section contains a table with one entry:

Item	To Name
1	6-2 Cramer et al

A screen clipping of the links between a piece of raw data sources and nodes of coded data and a memo. The 'Memo Link' shows the process of how data is being

considered and studied by the researcher in the for of notes being made and linked with data the process.

The screenshot shows a software interface with a top menu bar (File, Home, Create, External Data, Analyze, Query, Explore, Layout, View) and a search bar. On the left, there is a 'Collections' sidebar with options like Sets, Search Folders, All Nodes, All Sources, All Sources Not Embed, Memo Links, See Also Links, and Annotations. Below this is a 'Sources' sidebar with Nodes and Classifications. The main area displays a 'Memo Links' table with columns 'Item Name' and 'Item Folder'. The table lists three items: 'Brid Final Interview (2)', 'Co-teaching as Professional RELationsho Building\Shared Responsibility', and 'Reflective Journal for NQTs Peter'. Below the table, a text document titled 'Shared Responsibility' is open, showing a paragraph of text. A black arrow points from a text box at the bottom right to the 'Co-teaching as Professional RELationsho Building\Shared Responsibility' link in the table.

Item Name	Item Folder
Brid Final Interview (2)	Internals\\Inter
Co-teaching as Professional RELationsho Building\Shared Responsibility	Nodes\\Phase
Reflective Journal for NQTs Peter	Internals\\Refl

Shared Responsibility

Responsibility towards each other's learning and collaboration across schools was fundamental to the participants' engagement in the community of practice. The needs and experiences of other schools and their responses to shared responsibility, co-teaching and induction were a large portion of the CAR meetings' proceedings. The dynamic collaboration, shared responsibility and mutual engagement across schools and co-teaching pairings were a significant element of these professional relationships. One could argue mutual engagement shows that by engaging in this process the participants were aware of how other schools might differ from their own and began to consider how others may implement certain practices in various context. It could be argued that as they began to co-reflect they also began to modify their own perceptions of other contexts and models in the light of this to help facilitate the learning of others.

The notes of the researcher are linked with data and coded data

A screen clipping of the link between a piece of raw data and a note regarding the context. The 'Annotation' gives context to the data which may not otherwise be apparent.

This process of describing the missing context and information aids in developing the participant' worldview rather than that imposed upon them by the researcher.

Co-teaching with Mentors and

File Home Create External Data Analyze Query Explore Layout View

Collections

- Sets
- Search Folders
 - All Nodes
 - All Sources
 - All Sources Not Embed
- Memo Links
- See Also Links
- Annotations

Look for: Search In: Find Now

Annotations

Source Name	Number	In Folder
Mary Interview 1	1	Internals\Interviews (First Round)
Observation Meeting Four	1	Internals\Field Notes at Meetings
Reflective Journal for NQTs Peter	1	Internals\Reflective Journals

Reflective Journal for NQ x

2. What teaching activity did you decide to focus on for this cycle? How have you included it in this lesson?

Drama included with music.

- Performance of songs, etc
- Included music in the lesson
- Variety of musical activities based upon a theme.

Sources Nodes Classifications Collections Queries Reports Models Folders

Annotations

Item	Content
1	Peter has a huge interest and gift for music.

Appendix O: Key Words across Timepoints Data Matrix

All key words, which were identified through a word frequency data analysis query, as they intersect with the timepoints from prior to engaging in the study to after their engagement with the study.

Key Words	Initial Discussions	Discussions During or After
Afraid	2	1
Anxious	1	0
Awkward	7	0
Benefits	1	8
Better	1	5
Change	0	7
Challenges	1	0
Collaboration	0	3
Comfortable	0	4
Confidence	3	7
Culture	0	1
Daunting	2	0
Delighted	0	3
Different	9	13
Engaged	1	2
Enjoy	0	2
Feedback	0	3
Feelings	4	17
Focus	1	3
Great	7	16
Guidance	5	4
Help	14	24
Ideas	5	11
Implemented	0	5
Improve	1	3
Laughter	0	7
Learning	12	23
Lovely	3	9
Lucky	0	2
Mentor	11	11
Needs	11	9

NQTs	10	8
Observing	9	15
Openness	3	4
Opportunity	0	5
Organised	0	4
Planning	6	19
Positive	1	8
Practice	3	5
Pressure	1	0
Professional	0	5
Questions	3	1
Recommend	0	2
Reflection	1	7
Relief	0	2
Resonibility	0	2
Resource	2	10
Stress	4	1
Success	0	1
Support	8	16
Team	2	13
Throughout	0	7
Together	2	13
Trying	14	7
Understanding	0	1
Works	11	40

Appendix P: List of Sample Prompt Questions and Discussion Topics from CAR

Meetings

Question or Prompt Type	Rationale	Source (if applicable)
Questions from the Reflective Journal	Used as a springboard to begin the meetings explored as a	Data Collection Tool from this study
Which step of Action Research, do you think is most challenging in this process? Reflection and Discussion, Change, Plan or Act? Why do you think this is? How could we address it?	To engage the participants in taking ownership of the cycles of CAR.	Questions posed by researcher during the initial cycles of the study.
The most important thing I/we learned was... The way I/we learned was... What I/we found difficult was... What I/we enjoyed most was... What I/we need more help with is... What still puzzles me/us is... What surprised me/us was... What I/we have learned that is new is...	Prompt discussion and reflection on the process of co-teaching	NCCA (2015) Focus on learning workshop 04: Students reflecting on their learning. NCCA: Dublin Page 7 Activity 3

<p>Using ‘Critical Thinking’ (Harrison, Lawson and Wortley, 2005, p. 272) prompt method: asking the participants to describe a challenging event, its trigger and their response and invite them to create a different approach.</p>	<p>Gives opportunity for participants to discuss what they could do, rather than what they should do</p>	<p>Harrison, J., Lawson, T., & Wortley, A. (2005). Facilitating the professional learning of new teachers through critical reflection on practice during mentoring meetings. <i>European journal of teacher education</i>, 28(3), 267-292.</p>
<p>Using ‘Storytelling Approach’ the participants narrate an episode of co-teaching, what happened and why and how it will impact on their future teaching.</p>	<p>Harrison, Lawson and Wortley (2005, p.272) suggest that this method of creating a story can elicit an emotional response which can enable them to recognise their choices and begin to consider how to act in a new way.</p>	<p>Harrison, J., Lawson, T., & Wortley, A. (2005). Facilitating the professional learning of new teachers through critical reflection on practice during mentoring meetings. <i>European journal of teacher education</i>, 28(3), 267-292.</p>
<p>Prompts from the researchers visit to school sites. Encouraging the participants to share their reflection on what had been observed by the external collaborator.</p>	<p>The external collaborator could draw participants into the discussion by referencing something she had seen during an observation and look for the participants’ response</p>	<p>Observation notes from the researcher.</p>

	to her observation (and possibly her reflection)	
Prompts by the researcher to include other school type or participant type in a discussion; ‘How do you feel that would be different in a small school?’ etc	To begin to develop an awareness of the impact of context on their co-teaching and CAR cycles.	Researcher asked these questions during the meetings when the opportunity arose naturally within the discussions.

Appendix Q: Letters for Boards of Management

Ráistín,
Co na hIarmhí,
C15 TX98.
2nd October 2015.

Board of Management,
School,
Address Line 1,
Address Line 2.

Re: Research project for Doctorate of Education

A chairde,

I am writing to request permission from the Board to work alongside some of the teachers in your school as part of my doctoral research.

I am a classroom teacher in Scoil Uí Ghramhnaigh, Ráth Chairn, Co na Mí and also work with the National Induction Programme for Teachers. I have been studying in St Patrick's College, Drumcondra since 2013 and I am currently beginning the research element of these studies.

My research focuses on the induction phase of teacher education and in particular looks at the role of schools during this critical time for Newly Qualified Teachers who are undergoing probation. As I am sure you are aware, the role of the Inspectorate in this phase of teacher education is changing and will be replaced with a model that favours in-school and on-going assessment and support of the Newly Qualified Teacher. My research will look at how experienced teachers can work with Newly Qualified teacher to support them, but also to assess them. I have set up a professional support group in Navan Education Centre where participants in the research project will meet to reflect on the challenges they face and to work collaboratively to find ways to overcome these challenges. These meetings also foster professional conversations about teaching and learning in general amongst the participants.

Additionally, I would like to visit the participants in schools to observe the Newly Qualified Teacher and their Mentor as they engage in induction activities. These observations will be audio recorded and this data, as well as all data gathered during the project, will be kept by myself under lock for three years after the completion of the project at which point it will be destroyed. I will not be recording any pupil in the school.

I have attached a copy of the Plain Language Statement which is intended for the participants of the project but which will give you a clear overview of the research and its nature. I hope that you have all the information needed about the project but please do not hesitate to contact me if there are any further queries either at the above address or by email at ciara.uichonduibh2@mail.dcu.ie.

Is mise le meas,

Ciara Uí Chonduibh B. Oid, M. Ed (Equality and Diversity)