

From Microteaching to Microlearning

The Final Report on the Video In STEM Teacher Assessment (VISTA) Project

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Summary

This report describes the findings of a collaborative microteaching project involving pre-service post-primary science teachers and their tutors from Stranmillis University College Belfast and Trinity College Dublin. Microteaching is a recognised learning activity included within initial teacher education programmes around the world. The aim of this research was to identify which particular features of microteaching pre-service teachers find the most useful and explore how might microteaching sessions be designed and carried out so as to maximise learning.

Alongside microteaching sessions conducted separately within each institution, the pre-service teachers took part in two day-long microteaching seminars, firstly in Belfast and then in Dublin. The programme and the microteaching protocols followed at each seminar, were jointly designed by the pre-service teachers and the tutors. During each seminar the hosting students taught short science lessons which were video recorded and then analysed by small groups comprising students from both institutions. The plenary activity required each group to share and discuss their lesson analysis with the entire cohort of participants.

The findings of our study, based on data obtained via seminar evaluations, questionnaires and focus group interview, indicate that all participants found the microteaching experiences extremely useful. The principal affordances identified related to the use of video as a tool for lesson analysis and the opportunity for purposeful collaboration with peers from both institutions. The key recommendations for ideal practice of microteaching were; that it should be student-led in both design and in activity, include peers from different institutions or at least from different subject areas from within the same institution, be included throughout and across each year of the initial teacher education programme, and provide participants with the time and means to socialise.

Whilst our findings are consistent with previous studies of microteaching we feel they contribute something to our understanding of microteaching as a form of pedagogy within initial teacher education and provide a valuable blueprint for its future use. We offer a Vygotskian interpretation of our findings based on a 'Video Supported Zone of Proximal Development' (VSPD). Within this VSZPD the collaborative use of video attends to both the cognitive and affective aspects of learning how to teach. The characteristics of ideal practice, as identified by the participants, are those which are likely to enhance and add value to the activity within this zone. We also consider this collaborative approach to video analysis to be helpful in developing student teachers' practice of and disposition to reflection, a cornerstone within all teacher education programmes.

At a time of much change and debate within government regarding policy on initial teacher education, both in Ireland and in the UK, we feel the project's focus on the pedagogy of initial teacher education most timely. If students are to make the most of extended placements in schools, they must be both competent and comfortable in the task of evaluating their own, and other's practice. We see on-campus microteaching as a way to achieve this and ensure that our students have the best of both worlds.

Introduction

This introduction looks at current policy and issues relating to initial teacher education in Ireland and the UK and considers the potential of microteaching for developing the reflective practice of pre-service teachers.

The current context of initial teacher education

This exploration of pre-service teachers' experiences of micro-teaching is particularly relevant as the context and requirements of initial teacher education programmes has changed in both Ireland and the UK in recent years. The increased use of 'school-led' teacher education in England such as School Direct, presents challenges to universities and colleges regarding the content and structure of initial teacher education programmes and requires the host schools to ensure that the learning experience provided to student teachers is of the highest possible standard. It also represents a shift in the philosophy of policy makers regarding the very nature of teaching itself, as evident in the quote below from Michael Gove, the then Secretary of State for Education:

Teaching is a craft and it is best learnt as an apprentice observing a master craftsman or woman. Watching others, and being observed yourself as you develop, is the best route to acquiring mastery in the classroom. (Murray, *et al.* 2001, p273)

This view of the teacher as an expert in delivery, and the mind-set that learning to be a teacher merely involves the acquisition of a number of skills, is not new. Schon (1983) makes a distinction between 'major' professions, such as medicine, with stable knowledge bases and 'minor' professions, suffering from 'shifting ambiguous ends and unstable institutional contexts of practice' (p.23). His rejection of such a 'technical rationale' model of applied theory gave rise to the notion of the teacher as a reflective practitioner and a view of teaching as a problematic enterprise through which skills, knowledge, and ability are developed over time, through reflecting on experience (Korthagen 2001). Philpott (2014) calls for greater research into the pedagogy for teacher education in England, particularly in light of the shift in government policy towards school-centred initial teacher education. The increased focus on school placement as a context for learning means that it is more important than ever that university tutors and school mentors share a consistent view on the exact form of this pedagogy and collaborate more closely on the design of learning activities.

The development of partnerships between schools and universities is at the heart of the Irish Teaching Council's 'Guidelines on School Placement' (2013). The Irish Teaching Council calls for 'new and innovative school placement models...using a partnership approach, whereby Higher Education Institutions and schools actively collaborate in the organisation of placement' (p.3). The recent introduction of a two year Professional Master of Education degree as the only post-graduate route into teaching in the south of Ireland, also brings with it an increase in the proportion of time which pre-service teachers will spend in placement schools. This Council's placement model seeks to address some of the current issues within initial teacher education as identified in the Council's 'Policy on the Continuum of Teacher Education' (2011, P.8) such as 'education must be reconceptualised so that it is fit-for-purpose in preparing 21st century teachers and interfaces appropriately with the induction stage,' and 'many current programmes are overloaded and are based on somewhat outdated models of

provision where there is much emphasis on contact hours and assessment. This leaves insufficient time and space for the meaningful initiation of the development of teachers as reflective, enquiry-oriented, life-long learners.' The Teaching Council's view of teacher education as a continuum requires that pre-service teachers are supported in developing the skills, habits and disposition for professional development and lifelong learning at the very early stages of their teacher education experiences.

In the north of Ireland the importance of reflective practice is a fundamental premise of the General Teaching Councils' Competence Framework. Whilst the development of student teachers' reflective thinking is a key objective within all initial education programmes, Hagan (2013) proposes that here in Northern Ireland the emphasis on reflective practice is particularly strong. The General Teaching Council for Northern Ireland's publication 'Teaching: the Reflective Profession' (2007) states that 'one of the principles which underpin the Council's concept of competence is the centrality of reflective practice.... (and that) competence is developed through reflection on practice and through dialogue with others,' (p.13). The recent report on initial teacher education in Northern Ireland (Sahlberg *et al.*, 2014, p.11) recognises the importance of school placement experiences where, 'beginning teachers observe and analyse their own and other people's teaching, undertake progressively more demanding teaching episodes with learners, and begin to come to terms with the way of life of schools.'

Donaldson's review of teacher education in Scotland (2010) also calls for closer collaboration between ITE institutions and proposes that 'the school experience should be designed along with the university experience to allow reflection on practice and its interpretation in ways which bring theoretical and research perspectives to bear in relation to actual experience,' (p.12) and cautions (P.9) that 'simply advocating more time in the classroom as a means of preparing teachers for their role is therefore not the answer to creating better teachers. The nature and quality of that practical experience must be carefully planned and evaluated and used to develop understanding of how learning can best be promoted in sometimes very complex and challenging circumstances.' The recently published 'Carter review of Initial Teacher Training [ITT]' in England (Carter, 2015) states that pre-service teachers must get the opportunity to observe good and outstanding practice and that they must be taught 'how to observe effectively,' (p39). The report suggests video as an effective means for teaching the skills of observation and analysis.

There is therefore a strong consensus that initial teacher education programmes should prioritise activities and learning experiences where pre-service teachers can engage in reflective practice in a meaningful and supportive environment, both on campus and during school placement. This will require a clear understanding of what is meant by the term 'reflection' and an exploration of the challenge of promoting reflective thinking within teacher education.

Reflective Practice

Although the terms 'reflective practice' and 'reflection' are used frequently within educational literature their particular meaning can vary from author to author and a general consensus of what these terms mean can be elusive (Zeichner & Liston, 1987; Sparks- Langer, 1992). Rogers (2002) believes that the absence of a clear notion of what distinguishes reflection from other types of thinking and the lack of means for identifying and assessing it in action, can lead to it being too easily dismissed or taken for

granted, therefore restricting its potential to enhance the professional practice of teachers and inform the research of teacher educators. If we are to convince our pre-service students of the value and worth of engaging in reflective practice we must create opportunities and contexts in which this process can be supported (Lee, 2005) and as Spalding & Wilson (2002, p.1393) suggest 'we must actively teach and model reflective skills in a variety of ways if we are to demystify reflection.'

Perhaps the most useful view of reflection is taken by Loughran (2002) who conceptualises it as a means by which theory and practice can be brought together, therefore allowing for 'the transformation of perspectives due to the construction of new experiences,' (Lee & Loughran, 2000, p.73). This constructivist view aligns reflection with the building of knowledge from interpretation (Alger, 2006; Taggart & Wilson 2005) and provides the means for development and growth as it 'allows for synthesis of understanding into a personal and world view,' (Canning, 1991, p. 63). Reflection has also been promoted as a way to ease concerns regarding any perceived gap between theory and practice (Korthagen, 2001; Korthagen & Kessels, 1999) within initial teacher education programmes. Despite its 'allure... as something useful and informing' (Loughran, 2002, p.33) and ubiquitous nature, Husu *et al.* (2008) contend that teacher reflection has not been as effective as it promised because reflective analysis does not come naturally and requires structure and dialogue. Bolton (2010) whilst recognising the need for supportive mechanisms cautions that reflection should not be imposed but nurtured, and that induction and facilitation are required to avert negative feelings and resentment. Hatton and Smith (1995) attribute the barriers to promoting reflection among student teachers to their limited conceptions of the work of a teacher and their preoccupation with coping with their current situation. Unless time and support for reflection is built into school placement student teachers may focus more on 'what should I do next' than on 'why am I doing it?' (Parsons and Stephenson, 2005, p103)

Developing reflective practice within initial teacher education

A number of studies (Husu, Toom & Patrikainen, 2008; Lee, 2005; Korthagen & Vasalos, 2005; Hatton & Smith, 1995; Lee, 2005; Alger, 2006; Lee & Loughran, 2000; Pedro, 2005) have shown that with guidance and support the reflective practice of both pre-service and in-service teachers can be enhanced. A common factor in much of this work has been the requirement for student teachers to produce written accounts of their experiences and thoughts as reflective journals (O'Connell & Dymont, 2011). The writing process itself is considered (Alger, 2006) to develop pre-service teachers' observation skills. In addition the author brings something of themselves, their feelings and anxieties and helps unearth their beliefs and assumptions. This is seen as a crucial starting point for the process of 'framing' and 'reframing' (Schon, 1983) their interpretation of classroom incidents

The personal nature of this narrative of lived experience is important given that 'all learning involves emotion as well as cognitive engagement' (Bolton, 2010, p.9). The human dimension to reflection has also been attended to by encouraging and facilitating collaboration between pre-service teachers, teachers, mentors and teacher educators (Rocco, 2010; Ottesen, 2007; Alger, 2006; Husu, Toom & Patrikainen, 2008). Collaboration, in the form of discussions and interviews, provides a means for unearthing and exploring taken for granted assumptions and tacit preconceptions. The process as well as the subject of this dialogue can also scaffold student thinking via internalisation (Vygotsky, 1982) so that 'a teacher's reflective thought is completed and transformed by interaction with and the reflection

of others.' (Shepel, 1999, p.73). Osterman & Kottkamp take the view that the solitary action of 'reflection' only constitutes 'reflective practice' when others are involved (2004)).

Possible obstacles to the growth of a reflective culture

Much of what may be written by pre-service teachers relating to their classroom practice may not necessarily be considered to be reflective. Post-lesson discussions with peers, mentors or teacher educators may also be classified as merely descriptions or recounts of what has happened and not involve any level of analysis. Nurturing the practice of reflection requires much more than simply strategies which require written accounts and facilitate discussion. Alger (2006, p.287) found that modelling the various levels of reflection made it accessible and a useful 'tool for pre-service teachers to do the organizing and reorganizing of their understanding.' Given the evidence that structure and support are necessary if the skill of reflection is to be developed among pre-service teachers, Alger questions the extent to which these skills will be employed in their future teaching careers, and urges a greater concentration on the development of a positive disposition to reflection rather than solely on skills.

The worth of requiring pre-service teachers to provide written reflections or reflective journals has been questioned by Hobbs (2007) who questions whether these accounts are either valid or genuine. These written assignments were found to be influenced by whether or not the assignment was being assessed, with students writing what they anticipated the tutor was looking for rather than the truth. Concerns about the validity of students' written reflections are also shared by Hatton and Smith (1995). In addition, they raise the issue that judgements and perceptions of students' reflective thinking based solely on their written accounts can only be as accurate and reliable as the extent to which the students are able to clearly articulate their thoughts and actions. This interpretation is often based on assigning patterns of texts or codes to nominal levels of reflection. Reflective writing is a genre quite different to the more familiar academic style appropriate for essays so students may feel less comfortable expressing themselves in this personal, explorative and often indecisive form. The repeated use of questions throughout written assignments was also found to instil a negative disposition to reflection. This concurs with Robert's (1998, p.59) view that students often view such written assignments as 'imposed course requirements with no meaning for themselves.' The efficacy of the use of reflective journals is examined by O'Donnell and Dymont (2011) who offset the benefits of this activity with the problems resulting from a lack of training or instruction, writing to comply with expected norms, and fatigue from overuse. The danger that the regular and routine use of reflective journals may result in reflective practice becoming superficial, bureaucratised and sanitised is highlighted by Gleaves, Walker & Grey (2008). However there is evidence that these challenges can be overcome by creating a reassuring and supportive environment for pre-service teachers (Fernsten & Fernsten, 2005) and by giving pre-service teachers a greater say in the design or format of reflective assignments (Hobbs, 2007) so that reflective tasks seem less 'burdensome' to pre-service teachers. It is therefore worth exploring how the process of reflection might be made more accessible, relevant, and worthwhile for our students as Bolton (2010, p7) observes that 'people only learn and develop when happy and benefiting personally.'

The use of video to develop the reflective practice of pre-service teachers

Advances in digital technology have led to an increase in the use of video as a mediating agent for learning and as an alternative media for communication within teacher education. Research studies report on the many benefits associated with pre-service teachers analysing recordings of expert teachers (Knight, Pedersen & Peters, 2004; Eilan & Poyas, 2009) or reflecting on the practice of themselves or their peers (Sherin & van Es, 2005; Rosaen, Lundeborg, Cooper, Fritzen & Terpstra, 2008). Studies report that video provides 'authentic representations' (Schwan & Riempp, 2004) of teacher-pupil interactions and bring about a deep levels of engagement ('immersion') as the learner identifies with their own or other's practice ('resonance', Goldman 2007.) In comparison to memory based recollections, video provides a more detailed and permanent record of classroom events which can be shared, exchanged and viewed as often as desired. It is the enhanced opportunity for observation, collaboration and objectification which make video a valuable learning tool in initial teacher education.

Sherin and van Es (2005) found that watching video recordings of their teaching 'can help teachers learn to notice, that is, to develop new ways of 'seeing' what is happening in their classroom,' (p476). This connection between noticing and teacher change is also recognised by Rosaen *et al.* (2008) who found that pre-service teachers' written reflections became more evidence-based and focused more on pupils than themselves after they had viewed and edited video recordings of their practice. Video was also found to reveal previously unnoticed actions and reveal taken for granted assumptions. The researchers refer to this difference between what was remembered and what was observed in the video as 'dissonance' and consider this to be play a significant part in teacher development. They concluded that video became a tool 'to make note of and ponder discrepancies and, in some cases, affirm theory to practice connections,' (p.357).

The pre-service teachers in Newton and Sorensen's study (2010) valued the opportunity to view and discuss recordings of their teaching with their peers and with teacher educators. The shared reality of the viewed video was considered to provide a more accurate context for analysis than the articulated memory based accounts of both pre-service teacher and tutor. Collaboration with peers was found to provide mutual support and encouragement (Rickard *et al.*, 2009), and compensate for any perceived lack of empathy from mentors and tutors, particularly during block practice (Rhine & Bryant, 2007).

Microteaching

Although microteaching is used within initial teacher preparation programmes across the world, an exact definition is hard to find. As a starting point perhaps it best to consider the description provided by Dwight Allen, the Associate Professor of Education at Stanford University (1967,P1.) where the activity was first developed.

.....the technique allows teachers to apply clearly defined teaching skills to carefully prepared lessons in a planned series of five to ten-minute encounters with a small group of real students, often with an opportunity to observe the results on videotape. Its distinction lies in the opportunity it provides teachers for immediate and individual diagnostic evaluation of teacher performance by colleagues, supervisors and

participating students and for measuring progress in specific teaching techniques.

The key features identified in Allen's description, (reduced lesson duration, use of video, and the provision of feedback), have all featured in the design and evaluation of almost all studies of micro-teaching to date. More recent descriptions all focus on the reduction of the complexity of the classroom, for example, 'the opportunity to practice in an instructional setting in which the normal complexities are limited' (Benton-Kupper, 2001, p.830) and 'scaled-down teaching encounter in which pre-service teachers demonstrate their ability to perform one of several desirable teacher abilities to a group of three to five peers during a short time period.' (Cruickshank & Metcalf, 1993, p.87). Morrison's (2010) description retains the sense of the 'micro' by describing it as 'teaching for a short period of time normally focussing on one particular aspect of a lesson or teaching technique, (p.19).'

Microteaching is widely regarded as an affective methodology within an initial teacher education programme. It supports student teachers' development of competence in planning (Bell, 2007) and provides them with the opportunity to explore the cause-affect dynamics of their actions (l'Anson, Rodrigues, & Wilson, 2003). In Benton-Kupper's study, pre-service students found focusing on a particular aspect of their practice, (e.g. presentation or the use of questions), helped them to develop their overall classroom practice. The study reported that feedback was most effective when it was structured and precise and although micro-teaching was 'not the real thing' (p.835) it provided real opportunities for professional growth. Van der Westhuizen (2015) highlights the need for feedback to be prompt and for sufficient time to be set aside for this crucial feature of the activity. Napoles (2008) study of micro-teaching with pre-service music students identified peer feedback as crucial and was most useful when provided by a range of observers such as peers and tutors.

The potential of micro-teaching to move beyond attending to the technical aspects of classroom has been explored by Amobi (2005). This study reports increases in pre-service teachers' reflectivity, using a framework based on four stages of reflectivity (describe, inform, confront and reconstruct) and provides some evidence of student teachers 'owning up to miscues in teaching... whether identified by self or knowledgeable other... is the critical first step toward making the explicit reconstructing that leads to growth,' (p129). The author states that to achieve these 'dual goals of preparing effective and reflective teachers' (P.129), initial teacher educators must capture the nuances of pre-service teachers' reflectivity on teaching actions throughout both on-campus activities and during school placements.

A direct comparison of the relative benefits on-campus micro-teaching to in-school placements was carried out by Metcalf *et al.* (1996). The study found that candidates who had been exposed to a series of on-campus micro-teaching activities were able to reflect on their teaching and experiences at a higher level than student teachers who had been placed in actual classrooms. Micro-teaching students were claimed to have become 'more attuned to specific details of pedagogical situations' and 'better able to transfer learning into new contexts' (p.280). These findings challenge the view of micro-teaching as a narrow technical exercise (Zeichner, 1983). The assumptions that pre-service teachers learn from school placements and that this experience 'melds theory into practice' is challenged by Santagata (2007, p.124). She cautions that unstructured classroom observation can prove ineffectual and poorly planned

school placements can 'expose students to a limited repertoire of strategies and to a narrow and unrepresentative sample of students.' Santagata's study found that on-campus microteaching brought about a statistically significant increase in pre-service teachers' practice across a wide range of areas of practice

This Study

In order for students to be able to construct their own knowledge of teaching they must at some point be provided with "face-to-face experiences of the realities, complexities, difficulties and rewards of the profession." (Metcalf (1996, p271.) While this first-hand experience is usually provided through school-based experience there is no guarantee that the intended learning outcomes will be achieved or indeed that extending the duration of school placement within an initial teacher education programme will necessarily enhance the competence of pre-service teachers. Kenny (2010, 1268) cautions that 'more is not necessarily better'. Effectively incorporating school placement within an initial teacher education programme poses challenges both operationally and theoretically. In Scotland, whilst the nature and content of learning activities provided during on-campus activities can be strictly controlled and evaluated there is little or no quality assurance mechanisms for placement experiences. Her Majesty's Inspectorate of Education Report (2005) identifies a number of factors which may restrict or compromise pre-service students' learning experience, including, placement students not viewed as a priority by schools, poor communication between universities and schools, and limited opportunities for student collaboration. Here in Northern Ireland, it is becoming increasingly difficult to find schools willing to offer school placements. This may be partly due to schools' concerns about the impact of pre-service students on the attainment of pupils' (Hurd, 2008), most likely fuelled in Northern Ireland by an ever-growing focus on schools performance tables.

Hobby (2011) warns against an over dependence on practical experience as what is learned in one context is not easily generalised to others. This can create a 'fragile professional' (p.12). Instead a mixture of experience is required if experience is to give 'meat to theory' and 'theory give breadth to experience.' However concerns have been expressed, (Lawes, 2011) regarding a reliance on reflective practice which is not rooted and informed by educational theory. This can result in theory being seen as an intellectual process rather than propositional knowledge and practice being redefined as theory through reflective practice. She therefore calls unequivocally for educational theory to be the foundational knowledge-base of the teacher.

It is the view of the authors of this report that microteaching allows for reflection to be nurtured within a theory-rich, collaborative and supportive environment. The premise of this study is that microteaching can be extremely effective in developing the practice of in-service teachers and that its potential within initial teacher education programmes may not be fully realised. The study builds on the researchers' previous work on the use of video technology within teacher education (McCullagh, 2013) and coteaching (Murphy, 2015) and explores the potential of a collaborative approach to video analysis. It aims to explore the particular affordances which on-campus microteaching can provide, what might constitute ideal practice, and how its use might be further developed for the benefit of pre-service teachers.

Research Design and Methodology

Introduction

The research was set in the context of a collaborative microteaching project between two initial teacher education institutions, one from the north and one from the south of Ireland. The data represent the experiences and views of both sets of pre-service teachers during the course of a number of microteaching experiences conducted in both jurisdictions. It is our view that any emerging consensus regarding effective practice for microteaching will be of greater value given the wide range of backgrounds and prior experiences of the pre-service teachers themselves and the significant differences between the two respective initial teacher education programmes. It was hoped that the collective voice of our students could point us towards an 'ideal practice' for microteaching which would be of service to initial teacher educators everywhere.

Methodology

The study focused on the experiences and views of a group of pre-service teachers during the course of a number of microteaching activities and took the form of an interpretive case study. The central endeavour was to understand the subjective world of the pre-service teachers' experience (Cohen *et al.* 2011). The micro-teaching activities themselves were typical of teacher preparation programmes and therefore ensured that the integrity of the experiences was retained. The data collection methods were devised as a means to 'get inside the person and to understand from within,' (Cohen *et al.* 2011, p.17). The characteristics of a case study (Hitchcock & Hughes, 1995, p.317) most relevant to our research are;

- It is concerned with a rich and vivid description of events relevant to the case
- It provides a chronological narrative of events relevant to the case
- It blends a description of events with the analysis of them
- It focuses on individual actors or groups of actors and seeks to understand their perceptions of events.

The aim was in line with Simons' view of a case study as a methodology whereby (1996, p.231), 'by studying the uniqueness of the particular, we come to understand the universal,' and understand how ideas and abstract principles can fit together (Yin, 2009).

Research Questions

Our research was guided by two central research questions.

1. Do pre-service teachers consider that microteaching supports their development, and if so how does it do so?
2. What do preservice teachers consider to be the essential features of ideal practice with respect to microteaching?

Participants

The project involved 16 students from Stranmillis University College Belfast in the first year of their Bachelor of Education (B.Ed.) degree programme, and 14 students from Trinity College Dublin in the first year of a Professional Master of Education (PME) degree programme. All students were specialising

in science education. All the participants were informed of the aims of the research and the data collection methods before being invited to take part in the project. The consent of all the students was obtained and they were assured that their identity would remain anonymous.

Design

Research Question 1. ('Do pre-service teachers consider that microteaching supports their development, and if so how does it do so?') took the form of Case Study 1 and involved only the students from Stranmillis University College. The second research question ('What do preservice teachers consider to be the essential features of ideal practice with respect to microteaching?') took the form of Case Study 2 and involved both sets of students. It was decided not to include students from Trinity College Dublin in Case Study 1 as their PME programme began much earlier in academic year (early September) than the Stranmillis B.Ed. programme and by the time of the first microteaching session the Trinity students had already gained some experience in placement schools. It was felt more appropriate and valid to explore the perceptions and opinions regarding the efficacy of microteaching using students with no prior classroom experience. Furthermore the Trinity students' timetables for Semester 1 included only brief periods on-campus so access to the students for microteaching and data collection would also have proved very difficult. Table 1. below shows the timeline for the project in relation to the overall programme for both sets of students.

Students	Sept-Dec 2014	Jan-Feb 2015	Feb 2015	Feb-April 2015	April 2015
TCD	2 days per week school placement	1 micro-teaching session Block Placement	Seminar 1 at SUC	2 micro-teaching sessions Block Placement	Seminar 2 at TCD
SUC	2 micro-teaching sessions		Seminar 1 at SUC	Block Placement	Seminar 2 At TCD

Table 1. The project timeline for participating students

Project details

Case Study 1

This involved the students from Stranmillis University College engaging in two cycles of microteaching during October and November 2014. After both microteaching episodes questionnaires explored the students' views on the experience. Any possible impact which this microteaching experience may have had on the students' experiences during school placement was determined by a questionnaire and focus

group interview when the students returned to College after their school placement in April 2015. The students' first microteaching activity (Microteaching 1) required the students to work in either pairs or groups of three to plan and teach a short science lesson to the rest of the group, including two tutors. Each student was required to teach for six minutes and the topic was chosen by the tutor from the science curriculum. The lesson topic was agreed by the group and they each taught a discrete aspect of the lesson, for example the introduction, a short pupil practical activity or a plenary. The lesson was video recorded by one of the tutors and made available to each group after the session. Each group was required to meet in their own time, view the recording of their lesson, and identify what they considered to be strengths and areas for development in their teaching. Each group presented their evaluation, supported by the video at an evaluation seminar the following week, during which the whole group were invited to discuss each other's evaluations. During the seminar the course tutor suggested strategies for addressing some of the areas for development identified in the videos. Each student then received one-to one feedback on their teaching and support for development.

For the second microteaching session (Microteaching 2) there were some changes to the protocol. This time the students themselves selected the topic for the lesson, they took responsibility for recording, downloading and sharing the video file, and they designed the lesson observation sheet. The evaluation task required the students to look for evidence of improvement in the areas identified during the previous session and highlight aspects of their teaching which they feel they could improve next. This time the students were required to produce a short edited video of clips supporting their evaluation. The students produced and presented their edited videos at an evaluation seminar during which the course tutor provided feedback on their progress.

Case Study 2

This part of the project sought to explore how the students felt microteaching activities should be designed in order to maximise learning. Its structure and design was informed by the data findings emerging from Case Study 1 and from less formal conversations between tutors and the students during the course of semester 1. It involved two microteaching seminars, one in each institution. The researchers decided to involve the students in the planning and running of each of the seminars. In response to a suggestion from the students the tutors were not present during either of the two microteaching sessions. The proceedings were directed by students from the host institution. As the Stranmillis students hosted Seminar 1 they were involved in its design. Feedback from this seminar was used by the students from Trinity College to design the second seminar in Dublin. Evaluation data was obtained after each seminar, before administering the final overall project questionnaire.

For logistical reasons it was decided that for each seminar the host students would microteach and the visiting students would observe and take part in the lesson evaluation. The visiting students were allocated to a particular microteaching group based on which topic interested them the most. Before commencing teaching, the host students outlined and discussed their lesson plans to the visiting students. For Seminar 1 the microteaching was conducted in two parallel sessions during which the Stranmillis students, working in the same groups as before, each taught a part of a lesson of approximately six minute in duration, to half of the total student cohort. The lesson was again video recorded by the students themselves. During the introduction the tutors explained the aims and



programme for the seminar. Each student was provided with a printed copy of the lesson evaluation designed by the Stranmillis students. Directly after the microteaching session each group met to watch the video recording and discuss and review the lesson. Each group was required to select video clips to support their evaluation of the lesson with respect to the items included on the observation sheet. Each group then presented their edited video clips, answered questions, and engaged in discussion with the whole cohort. In this way every student was able to observe and share in the analysis of all the lessons. Tutors were present and contributed to this evaluation session.

Seminar 2 was held in Dublin and followed a similar structure. However based on the feedback from Seminar 1 the lesson observation protocol was altered. Again the visitors, in this case the Stranmillis students, aligned themselves to a group of Trinity students based on their interest in the topic being taught. The pattern of preliminary discussion, teaching and recording, reviewing and video editing was again followed before all the students got together to present and discuss their video clips, with the tutors back in attendance. The lesson observation templates used during Seminar 1 and Seminar 2 are presented in Appendix 1.

Data Collection

The data collection methods for each case study are shown in Table 2 and Table 3 below.

Case Study 1: Do pre-service teachers consider that microteaching supports their development, and if so how does it do so?

Event	Date	Data Collection
Microteaching 1.	October 2014	Questionnaire, Video Analysis (N = 16)
Microteaching 2.	November 2014	Questionnaire, Video Analysis (N=16)
End of placement	March 2015	Questionnaire (N=16)
Post-placement Evaluation	April 2015	Focus group Interview (N=8)

Table 2. Data Collection Methods for Case Study 1.

Case Study 2: What do preservice teachers consider to be the essential features of ideal practice with respect to microteaching? (N= 25)

Event-Venue	Date	Data Collection
Seminar 1- Belfast	February 2015	Questionnaire, Lesson Analysis Transcripts, Students' Video analysis
Seminar 2- Dublin	April 2015	Seminar Evaluation, Lesson Analysis Transcripts Students' Video analysis
Post-project Evaluation- Email	May 2015	Questionnaire

Table 3. Data Collection Methods for Case Study 2.

Data Analysis

Questionnaires

As the aim of the research was to access the students' views the questions asked in the questionnaires on Microteaching 1 and 2 were free response. An analysis of content was carried out by both researchers independently to identify possible themes. Categories of student response were agreed before students responses were coded enabling some descriptive statistics of students' opinions to be generated. The exit questionnaire included exclusively categorical responses in order to provide a quantitative sense of the relative importance of each of the design aspects of the microteaching protocol.

Focus Group Interview

A focus group interview was carried out with a randomly selected group of eight Stranmillis students after they had completed their school placement. The questions were again free response and invited students to share their thoughts and experiences. On occasions the researcher followed up with a further question to develop a student response.

Findings

How is microteaching useful?

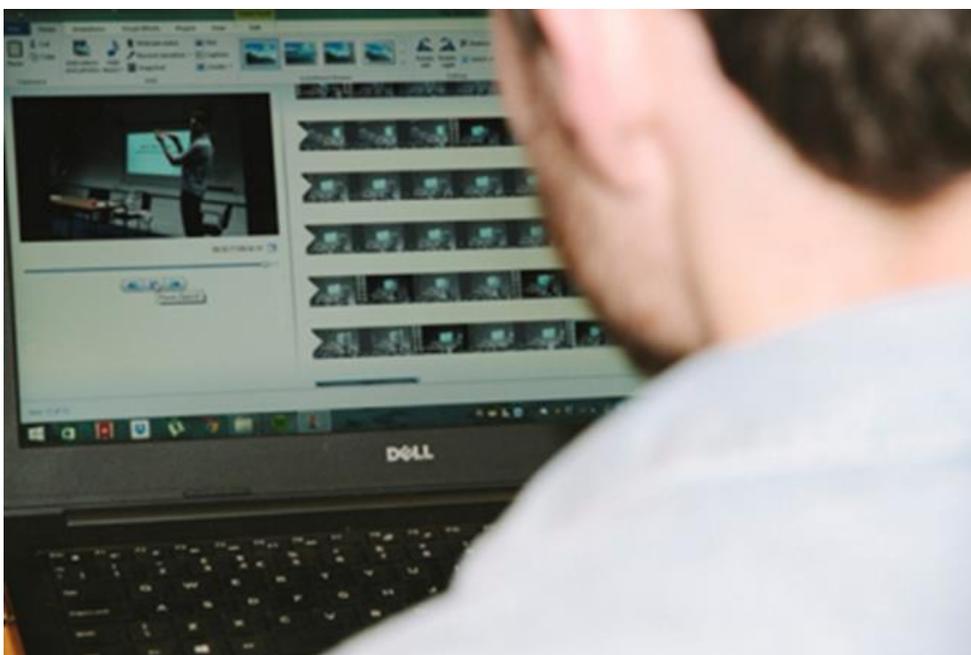
All of the participants for Case Study 1. reported that microteaching was useful in supporting their development as a teacher, with ten describing it as, 'very' or 'extremely' useful. The most cited aspects of microteaching alongside their frequency are shown in Table 4. below.

The most useful features of microteaching	Frequency (N=16)
Learning about a particular aspect of practice	14
The facility to watch video recording	12
Learning from peers	10
Support from peers	8
Being closer to a classroom environment	8
Observe self/others from pupil perspective	8
The opportunity to collaborate with peers	8
Increase in confidence	6

Table 4.

The opportunity to learn about a particular aspect of practice was the most commonly cited advantage of microteaching, with the majority of comments referring to planning, both in terms of its importance... 'I didn't realise how much planning is involved for just one lesson', and its relation to pupil learning... 'I could see how what was in the lesson plan looked like in action and how it needed to keep the class interested.' The frequently cited opportunity to watch the video recording of the lesson was considered to support learning in a number of ways. Seeing how they actually came across to the 'pupils' enabled the pre-service teachers to focus on the physical and technical aspects of teaching, such as use of voice and body language. The value of attending to this on-campus was not lost on them, as expressed by the comment 'I would never have realise I said, 'ok?' so often and how I was often turning my back on the class. I think I was speaking too quickly for school children to follow as well.' In addition to picking up on poor aspects of presentation, students felt watching the recording was reassuring, as one student put it 'after teaching the lesson, I felt bad about it and thought it was a disaster. But when I watched it again I could see more of the good things I was doing and this really lifted me.' A few students also noted the potential for self-assessment as the video recording would be useful to look back on to see if and how they were improving.

Providing opportunities to collaborate with their peers was another strong theme. The benefits relating to learning emerged from the opportunity for sharing ideas during planning, seeing how other students presented and getting feedback on their own teaching from peers.



Microteaching was also considered to support the affective aspects of learning to teach as shown in Table 5. below.

Affective aspect of microteaching	Frequency (N= 16)
Reinforced motivation to become a teacher	10
Confirmed decision to become a teacher	9
Put me more at ease regarding classroom teaching	8

Table 5.

The moral support provided by group work was equally well reported as the quote indicates, ‘it was far less daunting when we were working in a group and it really eased us into classroom teaching. We were all in the same boat and wanted each other to do well. I also felt getting feedback from peers was easier as you knew them and trusted them and could see it as well from the video.’ Though a number of students felt teaching their peers quite ‘daunting’ at the time, the experience was reported to have increased the students’ confidence and put them more at ease with the prospect of school placement. All the students felt their motivation to be a teacher had been ‘reinforced’ (two thirds of the group) or ‘confirmed’ (one third of the group).

When asked to suggest changes to the microteaching protocol (Table 6. below) almost all requested teaching for a longer period of time (about 15 minutes was the most popular duration). Approximately one third of the students suggested the opportunity to plan on their own, and all requested the option to decide select the topic for their lesson.

Desirable feature of next microteaching session	Frequency (N=16)
Teach for longer	13
More planning time	8
Plan and teach individually	5
'Class' behave more disruptively	5

Table 6.

For the second cycle of microteaching students continued to teach within the same group as in microteaching 1 but this time they decided the topic for themselves. In order to fit the sessions into the College timetable the duration of teaching remained at six minutes. The evaluation task now required students to select specific video clips and produce an edited video to support their evaluation. The follow up questionnaire continued to explore if and how the students found the activity useful. Again all students found it useful or extremely useful with the most commonly cited reason being the opportunity to look for improvement from microteaching 1. In addition to providing more experience actually teaching, a number of students valued the opportunity to follow through the cycle of teach-evaluate-reteach, as the comment suggests. 'It was great to see I was now able to react if pupils did not respond to my question. I could see this was far better.' Evidence of a sense of progression in students' lesson evaluation was evident in a number of responses such as.. 'In my second video I was happier with my voice and pace and was thinking more about was I just talking too much?' The video editing task was found to be very valuable to all students as 'it made you watch it over and over to get the bit you want, so I noticed' and 'it made my evaluation more focussed.' The process of presenting your evaluation was also considered very worthwhile, one comment being 'it meant I had to be clear about what I thought was good and bad.'

Just over half of the students felt that focussing on 'strengths' and 'areas for development' was the best way to evaluate their teaching. The rest of the group suggested focusing on particular aspects of practice. During the course of a follow-up discussion the whole group took the view that a lesson observation template would be useful for evaluating their own and other's practice. A consensus was achieved for the following aspects of classroom teaching; 'Communication', 'Subject Knowledge', 'Engagement with pupils', 'Monitoring of pupils', 'Other'. The students decided that this would be used during the first microteaching seminar with the students from Trinity College Dublin.

Did students feel their microteaching experiences helped them during school placement?

The findings are based on a questionnaire and a focus group interview with eight Stranmillis students. The questionnaire asked if, and how, the microteaching experiences had been useful in preparing them for placement. All of the students stated that their microteaching had been an excellent preparation and had made placement much easier. Table 7. below shows the most frequently reported themes.

Reported theme	Frequency (N=16)
Practice being in front of a class	7
Development of presentation skills	10
Increase in confidence	9
Development of lesson planning skills	8
Development of lesson evaluation skills	11

Table 7.

The data which emerged from the questionnaire was explored in the focus group interview. All the pre-service teachers involved in the discussion stated that the microteaching experiences in College had been very helpful in preparing them for school experience. As a starting point it was considered 'a really good way to break the ice and to get started into classroom teaching'. Another student commented how it 'had helped you to establish your own teaching style. Everybody has their own individual style of teaching and the microteaching helped us to put down a foundation for that'. The view that microteaching had established confidence was a strong theme for the majority of students, as indicated by the comment 'I felt the microteaching more intimidating than teaching younger pupils in school. So I was boosted that I could teach a lesson to my peers and this helped me get through the early nervous stage of placement, which, when I got into it was great.' Microteaching was used for identifying development needs regarding the physical aspects of teaching such as body language and use of voice which were considered helpful on placement. 'From the microteaching I had a sense of how I might be coming across, because I had watched the video, and could control my voice better and knew when I needed to speak louder or change the way I speak to keep the class with me. Without the microteaching and the chance to observe myself this would have been more difficult.' A number of students described how after the two cycles of microteaching they felt ready to move into actual classrooms.

Lesson evaluation during placement was also felt to have been easier as a result of microteaching. Having the experience of receiving feedback from peers, which often could be negative, during microteaching was found to make tutor visits easier, as one student explained. It made you realise that you are not always going to get things right and that you shouldn't take it personally. So when tutors would suggest things you need to improve it was less of a shock and you were already thinking ahead and could ask them more about what to do next.' Another student felt it had helped her to be realistic and fair in lesson analysis stating ... 'evaluating during microteaching had to be honest as others were there and witnessed it; however on placement this was not the case.'

The students were asked to consider how their placement experience would have been like without having had any microteaching. There was a collective sigh at the prospect with students describing how the two cycles of microteaching had put them 'two steps ahead'. One student developed this idea describing how microteaching had ensured they were learning throughout all six weeks of the placement, whereas the first two weeks would have 'been back at the microteaching level.' She

explained, 'because of microteaching we knew exactly how we wanted to teach and didn't really need to break ourselves in.' There was a clear sense of how microteaching allowed students to quickly progress through the 'low level aspects' such as use of voice and standing in front of the class, and focus more on use of questions, and planning effective learning activities. Students described how during placement their evaluation tasks were 'more general' and felt they were less sure about what was expected of them. They also stated that the way they were required to evaluate was not useful and much preferred the close focus of microteaching even though it required more work. Students felt they would have liked to have had more control over how they evaluated their teaching. They even went as far as describing their placement evaluation tasks as 'quite tedious' with one student going as far as saying 'I did not put much thought into it. During placement we were filling the box just for the sake of it so the evaluations were not really that honest.' All the students reported that as the provision of written feedback from tutors during placement had been really helpful they suggested that microteaching should also provide a written account. One student explained how.. 'it would have been great to have in your teaching file, to check back on, feedback on each area of your teaching from the microteaching. It would reassure you that you were able to do this.'



What constitutes ideal microteaching practice?

The findings related to this question (Case Study 2.) are based on the data from the final project questionnaire alongside the evaluations of seminars 1 and 2. The essential features of ideal practice are presented as students' responses to questions on the 'five W's' of microteaching:

- **Who** should be involved?
- **What** should the activity include?
- **Where** should micro-teaching take place?

- **When** should micro-teaching take place within the programme?
- **Which** activity, teaching or observing, do students find the most useful?

Who should be involved? See Table 8 below.

Feature of Micro-teaching	Very Important	Important	Not Important
Students closely involved in programme design	8	17	0
Students closely involved in designing observation template	7	16	2
Students present evaluation to whole group	15	7	3
Tutors absent from teaching sessions	11	8	6
Tutors absent from group feedback sessions	4	13	8

Table 8.

All students felt it was important or very important that they were involved in designing the microteaching programme. The pre-service teachers valued the opportunity to create their own protocol for microteaching based on their experiences, as suggested by the comment.. ‘it makes you feel more involved, because if you are not happy with something then it is not as useful. But this way we can suggest something and then see if it is working.’ This enthusiasm was evident from the initial discussions between tutors and students about what they felt they wanted to learn and develop during their programme. The students were keen to decide the topics which they taught and to design the lesson observation proforma, with one student stating ‘ I would like to teach something I feel I know and like. It means there is one thing less to worry about which makes it easier when you are just starting off.’

The absence of tutors from the sessions where the students actually taught, was also viewed as desirable. Typical comments referred to reducing the pressure of tutors watching and creating a more ‘relaxed peer-to-peer atmosphere’. This also was considered to allow students to be more honest and encouraged ‘freedom of speech’ as one respondent described it. A few comments mentioned how they felt they were not being assessed or judged. There was also support for tutors being absent from the feedback sessions.

What should the activity include? See Table 9. Below.

Feature of Micro-teaching	Very Important	Important	Not Important
Teaching students obtain written feedback from peers	17	5	3
An observation template is used	13	11	1
Time available for students to socialise	13	12	0
Specific video clips edited or selected for feedback	11	10	4
Students teach parts within the same lesson	8	15	2
Students select lesson topic	4	14	7

Table 9.

Obtaining written feedback from peers and the use of an observational template were considered to be very important. Over the course of the project the actual format for lesson observation and the process of lesson evaluation was explored and developed by the students. Based on their experiences during Case Study 1, the Stranmillis students designed the observational template used for Seminar 1 (See Appendix). This required observers to identify strengths and areas for development across each of the areas, Communication (voice, clarity, body language), Subject Knowledge, Engagement with ‘pupils’, and Monitoring of pupils. This would then be discussed as a group with the student who had just taught. This use of headings to break down the evaluation was generally considered to be useful. However, it was felt that further development should address two emerging issues. Firstly some students reported that having to think in terms of these headings and simultaneously observe the unfolding lesson quite a challenge. As one student put it.. ‘there was too much going on in my head’. Secondly as written feedback was provided by every observing student the recipient often ended up with differing views and only partially developed opinions. For Seminar 2 in Dublin the Trinity students devised an approach which would address both these issues (See Appendix). During the actual lesson the observer would record ‘Observer Notes’ along the lines of strengths and areas for development. Immediately after the lesson each observer would individually take time to complete a ‘Peer Review Proforma’ around specific headings. The group would then discuss and exchange their views before coming to a consensus for each heading. An agreed group report would then be completed for each ‘teacher’. In addition to being considered valuable to the student who had been observed, this exchanging and challenging of opinions was felt to be a real strength of this approach. As one student put it, ‘we couldn’t just say something

was good or bad, but we had to say why and then someone would disagree and we would have to think again and talk it all through.’ Several students commented on how the process had enhanced their observation skills and ‘shown me what to look out for in my own teaching. I learned this without the distraction of teaching myself.’

The majority of students felt that focusing on and editing specific video clips was valuable and ensured that assertions and opinions were evidence-based. Although the majority of students felt that teaching different parts within the same lesson allowed for collaboration there was also a view that individual teaching of discrete topics may be more in line with the practice required for school placement and their future teaching in general. A significant proportion of students didn’t feel it was important that they chose the topic for the lesson. Considering that earlier in the project (Case Study 1) the Stranmillis students specifically requested choice over the topic this may represent a change in their needs as learners.

Another feature considered important by all (half of the group considering it ‘very important’), was the opportunity and time to socialise with peers. Despite the fact that travel to and from each of the seminars restricted the time available for microteaching activities, the programmes were designed to ensure that the students had sufficient time to chat and socialise. In addition to adding to the enjoyment of both days, the students really valued the opportunity to discuss their respective science curricula and compare their experiences with other student teachers. The specific benefits from socialising and collaborating with students from a different programme will be described later. The ‘ideal’ duration of a microteaching lesson was considered to be between 10 and 15 minutes.

Over the course of the project the pre-service teachers created and evaluated their own lesson observation template and protocol. Based on their experiences during two cycles of microteaching, the Stranmillis students devised an observation template for use during Seminar 1 (Appendix 1). Feedback suggested that while specifying particular aspects of the lesson helped focus observation the detailed nature of the observation template could prove a distraction to observers during the lesson. The observation protocol was therefore modified so that observers could make brief notes during the observation and then consider the specific aspects of the lesson, in collaboration with peers, immediately after the lesson.



Where should micro-teaching take place? See Table 10. below.

Feature of Micro-teaching	Very Important	Important	Not Important
Involve students from another ITE institution	15	10	0
Involve another group of students from your own ITE institution	8	11	6

Table 10.

Working with students from another ITE was considered very important, particularly given the two different curricula followed in the respective parts of Ireland and the differences in the programme followed by the undergraduate (Stranmillis) and the post-graduate (Trinity) students. At the time of Seminar 1 the Trinity students had already been observing and doing some teaching during their two days per week school placement, in contrast to the Stranmillis students who had as yet no school experience. The Stranmillis students valued the opportunity to hear from the Trinity students and felt their comments and feedback were particularly useful as they were informed by school experience, as the comment indicates.. ‘ they have been teaching in schools so know what works and what to look out for when you are starting.’ The feedback on Seminar 1 from the Trinity students recognised that the

Stranmillis students had yet to be in school but still found it useful to see classroom approaches and hear ideas which may have been new to them. A number of Trinity students did mention how during Seminar 2 the Stranmillis students were referring to incidents from their school experience. All students were very positive about working with students from another institution, one student commented how, 'it was nice to hear that no matter where you are teaching you have the same challenges and problems.' Collaborating with peers from a different subject area within the same institution was also considered to be a potentially useful alternative.

When should micro-teaching take place within programme? See Table 11. below.

Feature of Micro-teaching	Yes	No
Include micro-teaching in next year's programme	24	1
Before school placement	20	5
After school placement	17	8
During school placement	8	17

Table 11.

All but one student was in favour of including microteaching in the following year of their programme, with almost equal support for it being carried out before placement as there was for it being carried out after. Microteaching during placement was rejected by the majority of students. The ideal number of microteaching sessions between different institutions was between two and four.

Which activity, teaching or observing do students find the most useful?

Twenty of the total of twenty-five respondents claimed that they learned as much from the microteaching experience when they were observing a lesson as when they were actually teaching the lesson.

Discussion

The data obtained from questionnaires, seminar evaluations, focus group interview and video recordings of the evaluation sessions for Seminars 1 and 2 all concur that pre-service teachers value microteaching and find it greatly supports them in the process of learning how to teach. We believe that each of its many affordances emerge from the opportunity for collaborative video-informed analysis of practice. This peer-to-peer evaluation and affirmation is at the heart of why students feel it is so effective and helps prescribe how student learning might be maximised within 'ideal' practice. We have developed a Vygotskian model, adapted from previous work on coteaching (Murphy *et al.*, 2015), to describe how microteaching can be such an effective tool for pre-service teacher learning and examined how including video analysis within the 'cycle of reflection' may transform pre-service teachers' practice and disposition with respect to reflection. The characteristics of ideal practice as recommended by the pre-service teachers identify the practices and protocols which enrich activity within both the VSZPD and the video informed cycle of reflection.

The Video Supported Zone of Proximal Development (VSZPD)

Vygotsky proposed that learning is most valuable when it takes place just ahead of development and that it requires a form of scaffolding or support to mediate this journey across the 'zone of proximal development' (ZPD). Warford (2011, p.252) describes the ZPD as 'the distance between what a learner is able to do and a proximal level that they might attain through the guidance of an expert-other.' Murphy *et al.* (2015) however point out that within educational contexts there is too strong an emphasis on the 'expert' nature of 'the other' and not enough consideration given to the importance of peer co-constitution of knowledge. During microteaching the interaction between peers, particularly as this can often be their first teaching experience, is more of a joint interpretation of practice than an expert-novice exposition. Since learning and development are supported by video the activity can be considered to be taking place in the Video Supported Zone of Proximal Development (See Figure 1.)

Pre-service teachers can be considered to be drawn into the VSZPD by their reaction to their teaching experience. For the pre-service teachers this may be surprise at what they actually looked and sounded like in the video and will create a sense of dissatisfaction, relief, or total shock. The VSZPD represents the conditions and activity which may support the pre-service teacher in developing this current 'basic practice' to their 'developed practice' with respect to whatever aspects of practice they may decide to focus on. For a number of these beginning teachers it was the technical aspects of their presentation, for others it may have been some other aspect of practice, for example, subject knowledge, use of questions or engagement with pupils. Murphy *et al.* (2015) point out that Vygotsky considered emotion as an essential element of learning within a ZPD. To be disappointed or shocked by what one sees implies that the learner has a notion of what how they would desire this practice to look like – that is, an image of ideal practice. By observing others, in both real time and in video recordings, the learners' initial ideals can be shifted and reconstructed. Subsequent cycles of microteaching can then be used to check for progress from dissonance to resonance between current 'real' and developed 'ideal' practice.

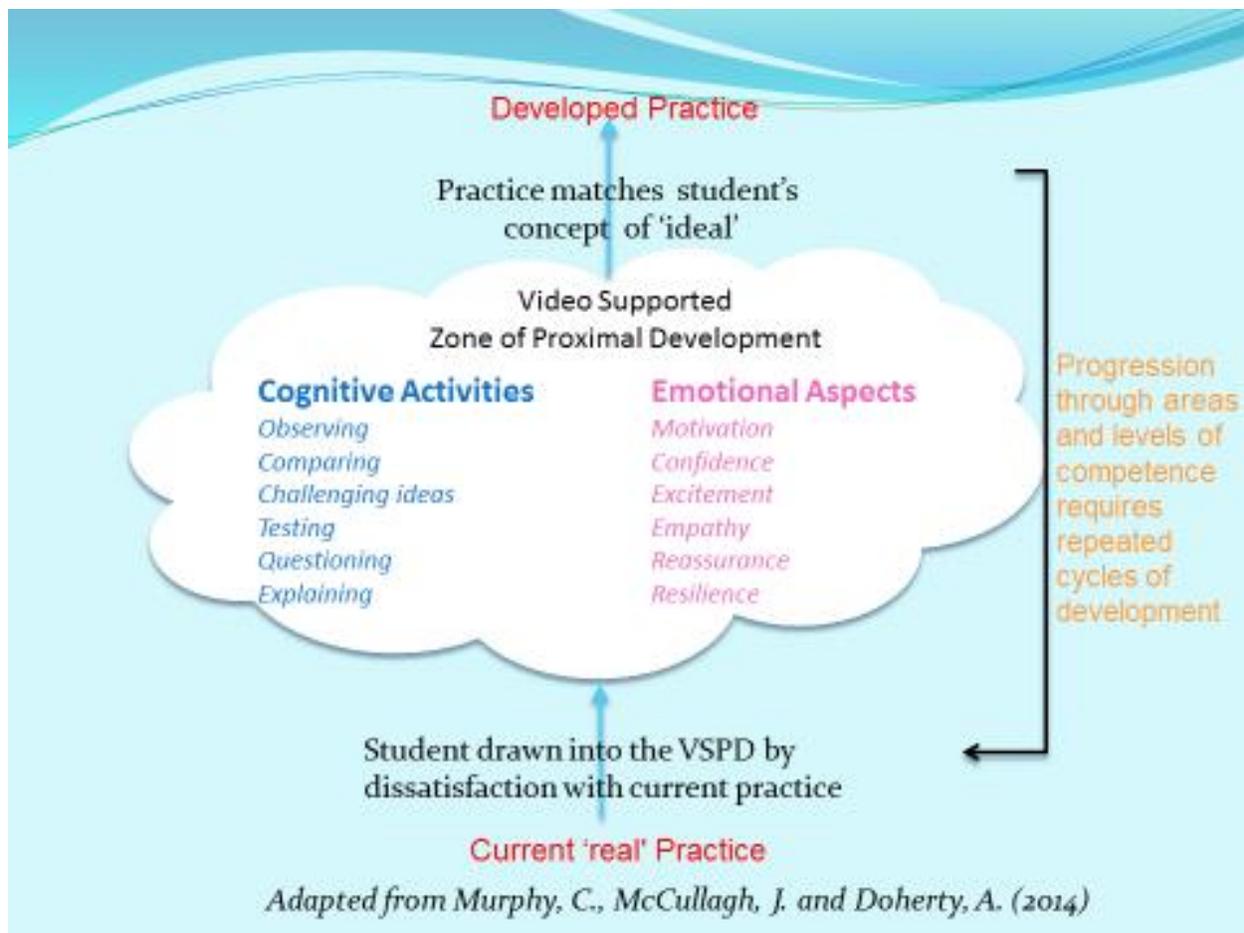


Figure 1. The relationship between the Video Supported Zone of Proximal Development and pre-service teacher learning.

Within this VSZPD both the cognitive and affective aspects of learning are jointly attended to by the use of video within a collaborative context. Video provides the opportunity for repeated observation of self and others, a crucial step as Rosaen *et al.* (2008, p.349) consider 'explicit noticing is critical to change because if a person does not notice, they cannot choose to act differently.' Just as microteaching focuses on a 'scaled-down teaching encounter' (Cruickshank & Metcalf, 199, p.87) video analysis takes this further by allowing a single teaching action or event to be deconstructed, discussed and its possible meaning sought. Within the VSZPD opinions and perspectives relating to the activity must now be evidenced-based, allowing for a more rigorous and robust analysis more likely to confront mind-sets and inform future intentions.

In addition to facilitating the cognitive activities of observing, comparing, challenging ideas, testing, and questioning, the VSZPD attended to the emotional needs of the participants. Hobson *et al.*'s (2008) study of student teachers' experiences across a number of initial teacher education programmes in England had much to say regarding the affective dimension of learning to teach. Our data indicates that many participants found the microteaching experience quite daunting and the analysis of self, uncomfortable. However the support of peers and feelings of collegiality and empathy with each other seemed to

sustain the pre-service teachers and managed to transform microteaching from a challenging to a rewarding experience which they would like more of. We feel that this is an important finding and an aspect of microteaching often not considered within studies. Hawkey (2006) claims that the role of emotion has been neglected within teacher education and that the stress of placement and the 'emotional whirlpool' (Erb, 2002) of starting to teach may serve to inhibit cognitive learning. Hayes (2003) cautions that excessive levels of anxiety before placement can prove detrimental to practice. Whilst the support of peers throughout the process of planning, teaching and evaluating is probably the main form of emotional support for the participants the reassurance resulting from watching a video of oneself teaching is also significant. The video provided much needed affirmation. Comparing recordings of their practice at different stages of the project helped to confirm that there had been improvement and therefore that this activity was worthwhile.

Collaboration

The opportunity to plan and evaluate with peers was highly valued by all participants. The video recordings provided a focus and a context for discussion with peers and tutors. Discussion and interpretation of video required the students to rationalise and justify their actions and enabled them to consider alternative perspectives. Exposure to the opinion, experiences and practices of peers from a different institution was found to add value to this practice as was found by Santagata (2007). Van der Westhuizen (2015, p.91) claims that peer collaboration during microteaching provides opportunities to engage in 'pedagogical reasoning' which leads to a deeper level of learning, critical thinking, and shared understanding. Rogers (2002) points out that Dewey considered collaboration to be a key characteristic of reflective practice. It is this discussion between students (inter-psychological) as well as the inner 'discussion' of a student reflecting on their own (intra-psychological) which Dewey proposed leads to higher order thinking (Shepel, 1999). School placements where students were paired were found by Bullough *et al.* (2002) to provide richer and more educative field experiences than solo placements. Hobson (2008) found that the experience of pre-service teachers' were more positive where the placement required close collaboration and joint endeavour. However working closely with peers during placement may at times be challenging as Hurley and Cammack (2014) suggest that these skills need to be developed prior to placement.

Microteaching and the cycle of reflection

It is the potential for microteaching to provide for both the cognitive and affective domains of learning which warrant its position as a cornerstone within any initial teacher education programme. The power to simultaneously develop beginning teachers' competence and disposition is particularly helpful when trying to develop reflective practice. The use of video within microteaching technology helps to break down the cycle of reflection into a series of identifiable steps and facilitates activities which develop understanding. Furthermore, by engaging in activity (e.g. discussion with others, editing, annotating video clips) Dewey's requirement that reflection be rooted in action is attended to and the possible notion of reflection as merely 'mulling things over' becomes less convincing. Each of the popular models ((Kolb, 1984; Gibbs, 1988; Atkins & Murphy, 1994; Korthagen & Wubbles, 1995; Korthagen & Vasalos, 2005; Pollard, 2005) used to represent the process of reflection generally involve a cycle of what can be approximately represented by the stages; planning, teaching, evidence collection, evaluation,

refinement, and teaching. As students move through each stage of this cycle we propose that learning is enriched by microteaching's potential to enhance two core activities; observation and collaboration. How microteaching can support pre-service teachers through each of the stages of Pollard's cycle of reflection (2005) is shown in Figure 2 Below.

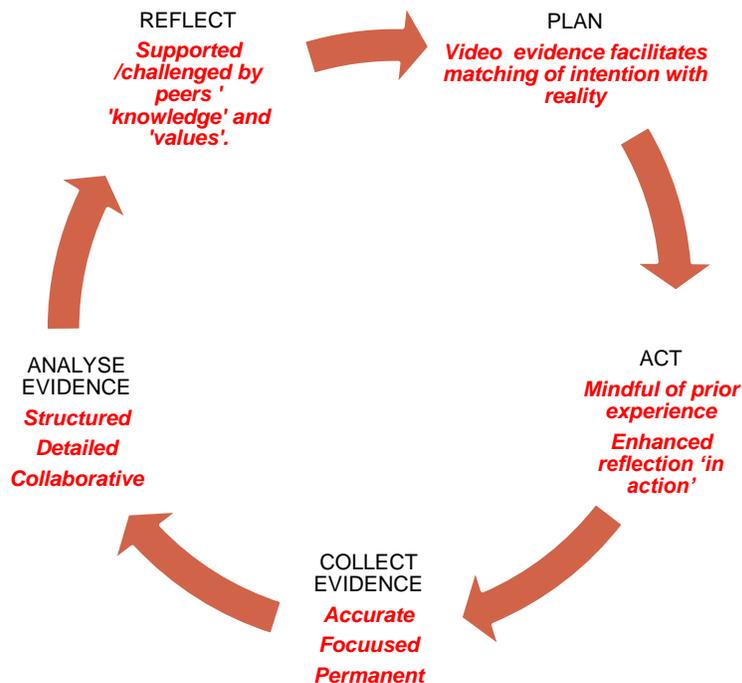


Figure 2. Microteaching within the cycle of reflection

Our data indicate that pre-service teachers continue to learn from their microteaching experiences during the course of their school placement. By 'rehearsing' this examination of each stage of practice and engaging in full cycles of plan-teach-review-reteach, key skills and the positive disposition so crucial for their professional growth, are nurtured and developed. In contrast to placement, the needs of the pre-service teacher are the top priority within on-campus activities. Here aspects of theory can be embedded within practice related learning, in a controlled and structured manner, enabling pre-service teachers to uncover the value of reflection and to see it as an essential aspect of their practice. As one student described it, they 'hit the ground running' when they arrive in school and now possess a heightened awareness of how their teaching may come across to pupils and a much stronger inclination to reflect.

Authenticity

There is a perception that microteaching may lack authenticity as it does not require pre-service teachers to engage with pupils, and therefore of limited value within initial teacher education programmes (He, 2011). However Iverson *et al.* (2008) reminds us of Darling Hammond *et al.*'s (1995, P11) view of authentic tasks being 'truly representative of performance in the field,' and then makes use

of an 'authenticity framework' to counter such claims. We consider that the microteaching described in our report fulfils two of Iverson's requirements- that the activity should be 'faithful to professional activity' and 'assists with the candidates ability to transfer and apply theory to practice'. The sharing of control of the microteaching design and protocols with pre-service teachers from different institutions is also aligned with the other two requirements- 'complete tasks in diverse contexts with diverse learners', and 'authenticity is tied to constructivism.' Fernandez (2010) combines aspects of Lesson Study and microteaching in Microteaching Lesson Study which she proposes to be an authentic task for teacher education as 'prospective teachers actively engage in important practices of the culture of teaching such as exploring changes in approaches to teaching in response to student learning.' We take the view that the authenticity of a microteaching session is enhanced when the activity is a shared endeavour, in terms of both design and activity, between all participants, (tutors, 'teaching' pre-service teachers and 'observing' pre-service teachers. The process of co-designing all aspects of microteaching contributes to the development pre-service teachers' efficacy, which Mergler (2010) suggests should be developed as early within an initial teacher education programme as possible. Our data indicates that there was a clear value in having the opportunity to actually see oneself as a teacher, and one who was actively constructing, what one candidate described as, 'an effective style.'

Conclusions and Recommendations

The features of ideal practice, as prescribed by our pre-service teachers are summarised in Figure 3. below. Each of these features support and add value to the range of activities and experiences within both the VSZPD and the cycle of reflection. Both the VSZPD and the cycle of reflection cater for the immediate and longer term needs of pre-service teachers. In this way microteaching, as Amobi puts it 'is where the dual goals of preparing effective and reflective teachers meet.'

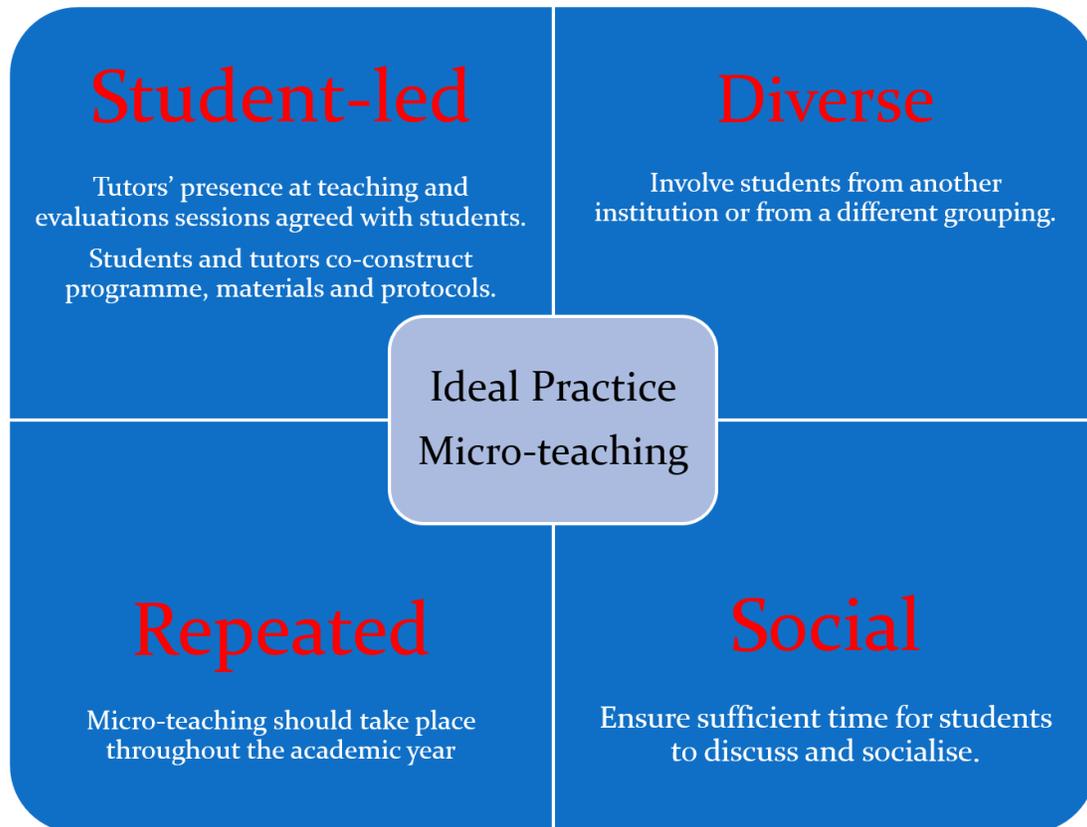


Figure 3. Ideal practice for microteaching.

We feel in identifying the features of microteaching which pre-service teachers find most useful and exploring how they may be developed towards an ideal, this project presents a strong case for extending the use of microteaching within initial teacher education programmes. It is consistent with the 'fundamental principles for teacher education and practices' as proposed by Korthagen et al (2006) particularly with respect to their view that; 'learning about teaching requires a view of knowledge as a subject to be created rather than as a created subject' (p.1027); learning about teaching requires a shift in focus from the curriculum to the learner(p.1029); learning about teaching is enhanced through

(student) teacher research (p. 1030); learning about teaching requires an emphasis on those learning to teach working closely with peers (p. 1032). It offers a way to reduce any perceived distance between practice and theory and align much more closely the practices enacted on campus and during placement. In conclusion we therefore recommend that on-campus microteaching activities should:

- Involve pre-service teachers, including those from other subject areas, in their design and activity.
- Occur throughout the year and beyond the first year of study.
- Require pre-service teachers to collaboratively interact with their video recordings.
- Be supportive experiences appropriately paced to facilitate collegiality and socialising.

We believe the findings of this project indicate that this is an aspect of teacher education which would merit further study. Possible future research might consider which microteaching designs and protocols are best suited to developing the practice of students who are further on in their initial teacher education programme, or how might microteaching be effectively transferred to a school setting.

Our message to teacher educators who may not already use microteaching or those considering extending its use echo the words of welcome expressed during our seminar at Trinity College Dublin;

"Tapaigh an deis."

"Speed the opportunity."



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Appendix

VISTA Project- Seminar 1 Lesson Observation

Group Number _____

Area	Strength	Area for development	Comment
Communication (e.g., voice, clarity, body language)			
Subject Knowledge			
Engagement with pupils			
Monitoring of pupils			
Other (Please specify)			

VISTA Project- Seminar 2 Lesson Observation

SHEET 1

Observer Notes

Things that were good?

Things that could be improved?

Any further comments?

SHEET 2

Peer Review Proforma - Microteaching

Observer's names:

Topic of presentation:

Target audience (age group/level):

1. Introduction

Ability to arouse interest?

Clarity of aim/objective?

2. Structure

Organisation of material?

Emphasis of key points?

3. Level

Pitched at appropriate level(s)?

Appropriateness for different abilities?

4. Enthusiasm and interest

Enthusiasm of teacher?

Maintenance of interest?

5. Interaction

Scope for interaction?

Examples of interaction?

6. Use of whiteboard

Overall appearance of work?

Any mistakes?

7. Use of examples

What sorts of examples were used?

How effective were they?

8. Clarity

Clarity of overall presentation?

Clarity of explanations?

9. Audibility

How well could the teacher be heard?

10. Pace and timing

Appropriate speed?

Kept to time?

6. Interaction

Scope for interaction?

Examples of interaction?

Sheet 3 Personal Reflection

Things I learned from being reviewed:

Things I learned from being a reviewer:

