

Using the Lesson Observation On-line [Evidence Portfolio] Platform [LOOP] to enhance the professional experience of initial teacher education

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Abstract

Internationally almost all teacher education programmes consider professional experience as fundamentally important (Ingvarson et al, 2014, p.19). In Australia pre-service teachers (PSTs) are required to meet the Australian Professional Teaching Standards, (the Standards) including those relating to their professional placement experiences (aitsl, 2014, p.1). Problems can arise however when the evaluation of their professional experience shifts from the providers of teacher education programmes to school-based mentors (Ingvarson et al, 2014, p.25). The Lesson Observation On-line Platform [LOOP] is a federally funded project that addresses these problems by utilizing a secure, shared digital platform to facilitate evidence-based performance evaluation of pre-service teachers with the aim of enhancing the performances of the PSTs and their school mentors. Five PSTs completing the Master of Teaching (MTeach) Early Years or Secondary Education teacher training programmes participated in this project. The classroom performances of the PSTs were video recorded and uploaded to the LOOP together with accompanying lesson artefacts. Some of the videos were then annotated by the mentor teachers and assessed by expert teacher educators and the impacts on the PSTs and mentor teachers evaluated using focus interviews. The initial results of this small scale study suggest that the LOOP can reliably help mentors evaluate PSTs against the Standards and help to resolve some of the tensions between the differing roles of the mentors, as well as enhance reflective practice in PSTs and mentors.

Key words: The Lesson Observation On-line Platform [LOOP]; video recordings; reflective practice; supervising/mentor teachers.

This article is part of a series of reports and sets out some of the context to, and the foundations of, the OLT seed-funded Lesson Observation On-line Platform [LOOP] project in Australia (Cooper, 2015; Cooper, Phillipson and Phillipson, 2015; Phillipson, Cooper and Phillipson (2015). This LOOP concept research sought to integrate seven key themes in contemporary initial teacher education encompassing connections between:

1. lesson observations of pre-service teachers.
2. video recorded evidence of their teaching in schools.
3. rating/grading those lessons from video recordings, including issues about inter-rater and intra-rater reliability.
4. technological issues about, for example, video cameras, video files, video compression, issues related to uploading, accessing and securely storing videos

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via Google Drive.

5. the use and integration of audio feedback critiques about the teaching captured in video recorded lessons.
6. the Australian Teachers' Standards, particularly those associated with teaching performance in lessons.
7. the role of the supervising/mentor teacher in Australian initial teacher education, with particular reference to using lesson observations constructively and developmentally. This is so that both the supervising/mentor and pre-service teachers can identify progress in terms of the Australian Teachers' Standards, 'what went well' in the lessons that were observed and how specific aspects of the lessons may be 'even better if' the pre-service teacher goes on to successfully attain the target(s) set for them.

For the purposes of this article we will focus on some of the preliminary findings of the research that have arisen from the video recording of five pre-service teachers completing their MTeach (Early Years or Secondary) periods of teaching experience in schools within the Monash University Schools' partnerships. The structure of the article is as follows. Firstly we will briefly outline some issues of context about Initial Teacher Education [ITE], video-enhanced lesson observations, and the process of conducting a LOOP video recorded observation of teaching. Next, we describe the context to supervising/mentor teachers and expert teacher educators using an existing lesson observation feedback instrument.

We then briefly refer to how the audio feedback/debriefing critique files produced by the mentor/ supervising teachers were analyzed thematically, specifically in relation to the lesson observation feedback instrument, which in turn is directly related to the Australian Teachers' Standards – particularly those associated with teaching performances in lessons. We then discuss some of the benefits and drawbacks of conducting evaluations of pre-service teachers' teaching performances using the LOOP process. The article concludes with a summary of some of the implications for enhancing the professional experience of teacher education.

Some issues of context in relation to lesson observation and initial teacher education

In England Cooper (2015) has outlined in some detail how the LOOP model for video recorded observations of teaching for developing and improving teachers' performance skills together with 'professional vision' in lessons may develop (Cooper, Phillipson and Phillipson, 2015). The school-based subject-mentor (typically an experienced, or recently-qualified, subject specialist) and professional-mentor (typically an assistant principal) have overall responsibility for the assessment and evaluation of pre-service teachers during periods of

teaching experience in placement schools (Ingvarson et al, 2014). The university tutor or lecturer conducts additional ‘face-to-face’ lesson observations to assess the progress and achievements of a student teacher, typically across one period of placement and fairly often across the two periods of school placements in the Post-Graduate Certificate of Education [PGCE] course. Whereas in England the university subject tutor typically visits the student-teacher at each of their placement schools to observe two lessons ‘face-to-face’, typically one towards the beginning of the placement and another towards the end, the position in Australia is different, even within the same State. In the State of Victoria, for example, the teacher with responsibility for mentoring the pre-service teacher, variously referred to as the mentor-teacher or supervising teacher, is often the person with sole overall responsibility for mentoring, coaching, supporting and guiding pre-service teachers whilst at the same time assessing and evaluating the pre-service teachers’ teaching performances in lessons (Ingvarson et al, 2014; Craven et al, 2014).

According to Renshaw (2012):

the terminology used across teacher education programs in Australia reflects differing perceptions of the role of the teacher [mentor] during the practicum. Margaret Lloyd (2012) provides a useful description of current uses of the terms ‘supervise’, ‘mentor’, ‘support’ and ‘assess’. Lloyd’s preference for ‘mentor’ and her reservations about ‘supervise’ and ‘assess’ signal the tensions inherent in reconciling the supervisory, assessing and mentoring aspects of the relationship between the pre-service teacher and the teacher at the school site. (p.7).

Investigating some aspects of the tensions to which Renshaw (2012) refers forms part of the OLT funded LOOP research described in this article. In a LOOP reference group meeting in July 2014, Ruth Newton, Teacher Accreditation Manager at the Victorian Institute of Teaching emphasised that school-based mentor teachers in the State of Victoria are 100% responsible for the assessment and evaluation of the pre-service teachers training in their schools. University tutors/academics at some teacher training institutions in Australia therefore have little, or no, role in the assessment and evaluation of pre-service teachers whilst they are training in placement schools. And what little involvement they may have is typically limited to doing special visits in accordance with the university’s ‘pre-service teacher at risk of failure’ policy and procedure to pre-service teachers who may have experienced difficulties and may not pass their qualifying periods of teaching experience in placement schools (Ingvarson et al, 2014; Craven et al, 2014).

In New Zealand Ussher and Carss (2014) have emphasized the key centrality of the roles of the ‘associate teacher’ [supervising/mentor-teacher] and university lecturer in assessing and

evaluating pre-service teachers during their periods of teaching experience in placement schools. Ussher and Carss (2014, p.3) note “mentors play a critical role in practicum experiences and for most student teachers their school-based mentor changes for each practicum as they experience a variety of school settings ... Associate teachers take on their role in good faith, providing pastoral care, expert practical guidance and feedback on teaching”. Ussher and Carss (2014, p.1) also point out that for pre-service student teachers “developing effective working relationships with schools and associate teachers during their practical experiences is a critical element in [their] perceptions of success”. For Ussher and Carss (2014) having the same university lecturer doing placement visits to the same pre-service teacher, as they experience a number of periods of teaching experience in different schools, is seen as a consistent, stable factor in the pre-service teacher’s training. Strengthening practicum conversations between pre-service teachers, mentor (supervising or associate) teachers and university lecturers (or tutors) was one of the key aims of Ussher and Carss’ (2014) research. “Such conversations are reported as critical to the development of teachers by providing opportunities to reflect, theorise practice and construct knowledge” Ussher and Carss (2014, p.2).

So it is important to recognise that whereas there are certainly differences between the forms of initial teacher education in England, Australia and New Zealand, particularly in terms of the roles and responsibilities of university tutors or lecturers, there are some similarities and perhaps most pertinently to this study there are similar concerns. Ussher and Carss (2014) for example, noted that their:

Student teachers also commented on the two different roles of support and evaluation undertaken by these lecturers and how this may be a challenge for student and lecturer. It required an adjustment to discussion because these lecturers were both liaison and support ‘mentors’ at the start of the practicum and then later they were ‘judge and critic’. (p.6).

In terms of the context to initial teacher education it is also worth noting that the Australian Government a year ago published a ‘Teacher Education Ministerial Advisory Group (TEMAG, 2014) Issues Paper’ that raises some specific ‘areas for discussion’. One such area relevant to this study is “How can teacher education providers and schools best work together to select and train mentor teachers to effectively support pre-service teachers on professional experience?” (TEMAG, 2014, p.9). The report states that:

Effective partnerships between teacher education providers and schools are important in managing the complexities of professional experience and the integration of theory and practice. It has been claimed that some partnerships are currently inadequate in addressing the increasing demand for placements, and in facilitating a useful and reciprocal feedback loop. There is also concern about the selection and

preparation of mentor teachers who support and assess pre-service teachers undertaking their professional experience. (TEMAG, 2014, p.9).

The TEMAG (2014) Issues Paper goes on to state that:

Consideration should be given to the models of professional experience that are the most effective in preparing pre-service teachers for the classroom, acknowledging that a variety of models may be viable to meet the diverse school settings within an Australian context. Further, the rigour of the assessment of pre-service teachers undertaking professional experience across different higher education institutions has been criticised with some arguing for greater consistency in assessment of classroom readiness. (TEMAG, 2014, p.9).

For the purposes of this study about using the LOOP to enhance the professional experience of initial teacher education the contemporary contexts in Australia, England and New Zealand are important to keep in mind. The role of the mentor- (supervising or associate) teacher and the highly effective training of such mentors are seen to be key issues in relation to strengthening practicum experiences for pre-service teachers, in particular strengthening professional conversations between pre-service teachers, mentor-teachers and university lecturers (Carter, 2015; Ingvarson et al, 2014; Craven et al, 2014). As the TEMAG (2014, p.9) Issues Paper reported “some partnerships are currently inadequate ... in facilitating a useful and reciprocal feedback *loop*” and “the rigour of the assessment of pre-service teachers undertaking professional experience ... has been criticised, with some arguing for greater consistency in [the] assessment of classroom readiness”. Lesson observations, video recordings of pre-service teachers’ teaching performances and high quality debriefing and feedback are therefore considered to be central to the TEMAG agenda and to this LOOP study.

The process of conducting a LOOP video recorded observation of teaching

For the particular purposes of this LOOP research it is important to outline the key ‘baseline’ or ‘benchmark’ expectations for the LOOP-format video recordings, lesson observations and debriefings/ feedback, *of* the pre-service teacher participants, *by* the mentor-teacher participants. According to Ingvarson et al (2014, p.35) “benchmarking is seen as a process of establishing ‘best practice’ and a benchmark is a standard of performance derived from that process”. It was anticipated that the mentor/supervising teachers of the MTeach (Early Years or Secondary) pre-service teachers must:

1. read the current ‘Placement Guide’ produced by the university and in particular have a clear understanding of, and familiarity with, the sections about the ‘Professional Experience Assessment Reports’ about “observing and analysing the teaching performance” of their pre-service teacher(s) for the relevant semester.

2. observe a LOOP–format lesson taught for an hour by the pre-service teacher utilizing their ‘usual practice’ for conducting a lesson observation.
3. complete the LOOP–format lesson observation instrument and upload it to their personal, secure, password protected, LOOP Google Drive Folder.
4. record their audio feedback/debriefing of the LOOP–format lesson observation of the pre-service teacher’s performance, specifically linked to the Flip camera video recording of the lesson. In this case the mentor-teacher’s feedback/debriefing file was uploaded to both their personalised LOOP Google Drive Folder *and* shared with their pre-service teacher, again through the LOOP Google Drive.
5. record and collate the time they actually, tangibly devoted to each of the four preceding items.

By ensuring that all of the mentor-teachers involved in the LOOP research in Australia were clearly informed of these key benchmark expectations this allowed us to study, analyse and evaluate their subsequent performance in relation to conducting a LOOP video recorded observation of their pre-service teacher’s teaching. Using biographical data about the mentor-teachers, and their pre-service teachers we were subsequently able to categorise our findings according to particular groupings, factors and aspects. This gave us opportunities to compare and contrast the teaching performances of the pre-service teacher participants and the LOOP–format lesson observation performances of their mentor-teachers. Given that the TEMAG (2014) Issues Paper states “the rigour of the assessment of pre-service teachers undertaking professional experience across different higher education institutions has been criticised with some arguing for greater consistency in assessment of classroom readiness” (TEMAG, 2014, p.9) it may be that our LOOP research can add something positive and constructive to this particular area for discussion. The TEMAG final report (Craven et al, 2014, p.31) made a number of recommendations about “good practice in graduate assessment”. These included greater use of on-line and video technologies combined with electronic portfolios of evidence for periods of professional teaching experience in placement schools. The Carter Review of Initial Teacher Training in England (Carter, 2015) has made similar points about the beneficial use of video-enhanced ITE firstly “to teach trainees how to observe and analyse teaching and learning” (p.39). And secondly an e-portfolio “as an online learning space, enables all those involved (for example, mentors and tutors) to interact and view materials remotely and monitor and track trainee progress. ... by uploading work to their e-portfolio, trainees always have access to their work and their [university stored Record of Professional Development/ DfE Teachers’ Standards VLE] file despite being miles apart” (p.45).

Turning now to the specific features of a LOOP-format video recorded observation of a pre-service teacher's teaching it is important to emphasise that the LOOP concept integrates a number of key sources of evidence about a pre-service teacher's performance. So a LOOP mentor-teacher analysis of teaching is not just simply about the Flip video-recording, it draws from a range of artefacts connected with the lesson that give the mentor opportunities to model "effectively the assessment principle of utilising many and varied sources of evidence to inform a complete picture" (Ussher and Carss, 2014, p.11). In discussing 'innovative Australian models of graduate assessment' Craven et al (2014) note that:

Deakin University developed an Authentic Teacher Assessment model that involves pre-service teachers planning and teaching a sequence of five to eight lessons during their professional experience. They collect examples of their planning and teaching tools, student work samples, videos of their teaching and written reflections as evidence of meeting the standards of practice. (p.32).

In a paper outlining the LOOP concept, as developed over the course of the last two-and-a-half years, Cooper (2015) has described how a LOOP-format video recorded observation is conducted. In this present Australian study, for each LOOP-format videoed lesson observation the onus was on the pre-service teacher and school-based mentor-teacher, working together, to decide which lesson to video record within the identified/specified timeframe(s), set up the video camera, save the video file securely after the lesson and upload it successfully to the password protected LOOP Google Drive. The video recorded file of each lesson was a maximum of one hour duration to fit within reasonable expectations about pre-service teacher entitlement(s) related to assessment and evaluation, mentor-teacher and pre-service teacher workloads and so on.

In addition to the uploaded video recorded lesson the pre-service teacher also uploaded their lesson plan (ideally closely linked to the Australian Teachers' Standards which are clearly identified and integrated into the subject-focused and pedagogically-related sequence of learning activities) with any accompanying lesson resources (PowerPoint or Smart-Board presentation slides, differentiated resource/work/consolidation-sheets, starter and plenary activity resources, card-sorts/match-ups, 'flash-card' templates, tarsia puzzle solutions, seating plan with pupils' names and their most recent attainment data, key targeted-questions connected to formative assessment/assessment for learning ...). Furthermore the pre-service teacher also had to upload at least three of the tangible pupil outputs from the lesson they had taught that related to that lesson's learning objective(s) and learning outcome(s)/success criteria. For example, in secondary mathematics' lessons these may have been scanned copies of three pupils' exercise books showing what the pupils were able to produce in a particular

lesson, or there may have been accompanying written documents, photographs of items or posters that pupils had created or video clips, for example of pupils' presentations. The performance of a pupil asked to participate in a speaking and listening task in an English, or MFL, lesson might well be best represented by a video clip.

If at least three of the tangible pupil outputs from a lesson were uploaded then one set was anticipated to be from a pupil who might be considered to be within the third (0 to 33.3...%) of the class with the lowest levels of attainments. Another pupil's output was anticipated to be from the 'middle third' (33.4...% to 66.6...%) and the third pupil's output was expected to be from the third of the class with the highest levels of attainments (66.7...% to 100%). Hopefully three reasonably well chosen pupils' outputs from a lesson would be fairly representative of what tangible outputs pupils 'took away' from a particular lesson. The very best mentor-teachers helped their pre-service teacher(s) to construct the attainment data sets for their classes, helped to categorise pupils into the three differentiated groups described above and acted as moderating influences in relation to fairly selecting representative pupils' outputs from the particular lesson being studied.

To complete a pre-service teacher's specific sources of lesson evidence for a particular lesson in their LOOP portfolio they had to upload no more than one A4 page of reflective writing for the lesson basically covering two headings: 'What Went Wells' and 'Even Better Ifs'. Each pre-service teacher uploaded their own self-analysed lesson evaluation to the LOOP, soon after having taught the lesson. Again, ideally those self-analyses should have been closely linked to the Australian Teachers' Standards, identifying excerpts that demonstrated how, and when in the lesson, that specific standards were met. Since a LOOP-format evaluation has the multi-dimensional qualities described by Ussher and Carss (2014) then by studying all of the sources of evidence about the lesson provided by the pre-service teacher a detailed picture emerged about how well that teacher planned, taught, assessed and reflected on their practice. Because of the multi-dimensional nature of bringing the lesson artefacts altogether the LOOP-format evaluation process also gave some indications as to the professional organizational capabilities of the pre-service teachers, in particular the quality of the documents they provided to form the evidence-base and the time it took them to collate their lesson-study portfolio.

At this point it is worth mentioning a little more about what the school-based mentor-teachers uploaded onto the LOOP. The mentors are expected to be present in all of the lessons that the

pre-service teacher teaches in the placement school so for a LOOP-format evaluation they were already scheduled to be in the class. Because the decision had been taken in our study to ask mentors to carry out their mentoring as per their 'usual practice' then how the mentors conducted their lesson observation practice was left very much to them. The mentors were expected to have understood and worked within the framework of the five key benchmark expectations described in detail earlier on. This provided opportunities to study how the mentor-teachers actually went about doing the 'real-time', 'face-to-face' lesson observation part of a LOOP-format evaluation and whether they were, for example, making explicit use of the Australian Teachers' Standards as they conducted their observations. The focus group meetings with a representative sample of mentor-teachers also provided opportunities to explore the extent to which they made references to the Standards when writing up their lesson observation notes/feedback/debriefing analyses – if indeed they did make any written lesson observation notes about the pre-service teacher's teaching performance. This also then meant that again there were opportunities to compare and contrast how the mentor-teachers went about the business of their 'usual practice' in terms of the 'real-time', 'face-to-face' lesson observation component of a LOOP-format evaluation of a pre-service teacher and whether there were any typical categories of mentoring practice as a result.

In relation to what might be thought of as 'usual practice' regarding a LOOP-format evaluation it is worthwhile noting that good/best practice suggests that mentor-teachers should model good/ outstanding teaching by holding a *pre-observation* meeting with the pre-service teacher. For example, this may be to review the pre-service teacher's lesson plan, familiarise themselves with the learning objective(s), the pupils' learning outcomes [or success criteria], key activities/episodes within the content/structure of the lesson, links and connections to the Australian Teachers' Standards and any particular important 'optimal' answers that pupils hopefully will have been guided by the teacher to discover, or at which they were expected to arrive. According to Renshaw (2012, p.14) Chalies et al (2004) "propose that sharing expectations and any concerns prior to the [*post-observation*] dialogue creates a better context for developing a shared framework for discussion". In this way then holding a *pre-observation* meeting is much like using a formative assessment/assessment for learning technique to ascertain the prior knowledge and prior learning of pupils. The lesson observation itself is the second critical element of the 'lesson snapshot' stage involved in the assessment and evaluation of a pre-service teacher's performance.

In terms of considering the notion of a mentor-teacher's 'usual practice' the *post-observation* meeting might usually be expected to begin by allowing the pre-service teacher to reflect, hopefully in some depth, on the aspects of their lesson that 'Went Well' and those that could have been 'Even Better If ...' (Cooper, 2015, p.86). All too often novice lesson observers/evaluators jump straight into *post-observation* debriefings/feedback 'conversations' with their own opinions of **WWW**s and **EBI**s, inadvertently, or deliberately, omitting the opportunity for the pre-service teacher to have their say about their own lesson. According to Renshaw (2012):

The post-lesson de-briefing session is an opportunity for the pre-service teacher and mentor to discuss different moments and events during the teaching episode (Walkington, 2005). To promote deeper reflection, it is preferable for the pre-service teacher to lead the discussion of the experience. The process is best described as 'debriefing' rather than 'feedback', which has the connotation of one-way communication. It is more comfortable to be told what worked and why by a mentor rather than to begin to self-assess and self-evaluate. In an effective mentoring approach, the pre-service teacher learns to take personal responsibility as well as learn from others. (p.7).

In this LOOP research the focus group interviews from meetings with pre-service teachers and mentor-teachers were intended to reveal whether pre-service teachers did indeed get the chance for deeper reflection, and be prompted, coached and 'challenged' by mentors "to extend the professional knowledge of the pre-service teacher, and the mentor" (Renshaw, 2012, p.7). Cooper's (2014) experience in England suggests that good/best practice in the *post-observation* debriefings/feedback phase must emphasise genuine professional dialogue between pre-service teachers and mentors, focused on both practice and theory. As Ussher and Carss (2014, p.3) point out the "practicum must be seen as a time to both practice theory and theorise practice".

The TEMAG (2014) states:

The Government recognises that the professional experience component of teacher education programmes is critical in providing the opportunity for pre-service teachers to put *theory into practice*. What is not clear, however, is which approaches to professional experience provide the best outcomes, how the supervision of pre-service teachers can be best managed and how effective teacher education provider and school partnerships can be encouraged. (p.8).

The TEMAG (2014, p.8) explicitly refer to 'theory into practice', whilst perhaps more subliminally allude to *theorising practice* in their two questions about *reflection*: - "How can teacher education programmes encourage teachers to *reflect* on evidence to support their choice of teaching practice?" and "How does *reflection* on evidence translate into student outcomes?" According to the TEMAG (2014, p.8) "there is a lack of agreement about the effectiveness of the various teaching methods used in Australian schools, and limited discussion has occurred about the teaching practices that should be taught to beginning

teachers”. Furthermore they state “There are also concerns that many teaching practices used in schools are not informed by evidence-based research”, and there is even a lack of clarity about “what constitutes evidence-based research and how this translates into student outcomes” TEMAG (2014, p.8). All this adds weight to the importance of high quality *post-observation* dialogue, debriefings and feedback between pre-service teachers and mentors. A note of caution though, 20 years ago Borko and Mayfield (1995, p.515) writing about ITE in America noted whilst:

At their best, student teachers’ relationships with both cooperating teachers and university supervisors can provide feedback about specific lesson components, suggestions about new ways to think about teaching and learning, and encouragement to reflect on one’s practice. ... In most instances in our study, this potential was not realized. For most student teacher – cooperating teacher dyads, conversations rarely included in-depth exploration of issues of teaching and learning (Borko and Mayfield, 1995, p.515).

There should be recognition then that mentor teachers must be trained and supported in their roles so they can prioritise in-depth *post-observation* conversations linking practice and theory (Timperley et al, 1998; Ussher and Carss, 2014, p.2). In the context of a LOOP-format evaluation the multi-dimensional sources of evidence collated in a LOOP portfolio ‘lesson snapshot’ are thought to enhance the professional experiences of pre-service teachers by mentors engaging in deeper, more meaningful conversations about their progress and targets for development (Ussher and Carss, 2014, p.11).

The lesson observation instrument used in the LOOP-format video recorded observation/ evaluation of teaching

This LOOP research made use of two lesson observation/evaluation instruments from Monash University’s Master of Teaching programmes. For four of the participants/respondents the ‘MTeach Secondary Professional Experience Assessment Report: Evaluation of the Pre-Service Teacher’s Learning and Development’ proforma was used (Monash, 2014a). An extract of the proforma is shown in Figure 1. The proforma had seven such sections. Section 1: ‘Know students and how they learn’ had five assessment criteria. Section 2: ‘Know the content and how to teach it’ had five criteria. Section 3: ‘Plan for and implement effective teaching and learning’ had six criteria. Section 4: ‘Create and maintain supportive and safe learning environments’ had four criteria. Section 5: ‘Assess, provide feedback and report on student learning’ had four criteria. Section 6: ‘Engage in professional learning’ had four criteria. Section 7: ‘Engage professionally with colleagues, parent/carers, and the community’ had three criteria, making 32 assessment criteria in all. The PSTs’

mentor teacher during their practicum, and the expert teacher educators (who conducted their lesson evaluations via video recordings and lesson artefacts) were instructed to:

Please place a tick (✓) in the appropriate column for each of the **Graduate Teacher Standards** and a comment underneath which supports this judgment.

**Exc = Excellent VG = Very good S = Satisfactory D = Developing
ND = Not Demonstrated**

It is important that mentor teachers provide evidence to support their observations for each of the standards. This report forms part of the pre-service teacher's **formative assessment**. Therefore, for Semester 1, it is important that mentor teachers relate details of performance **at this stage of the pre-service teacher's learning and development**. (Monash, 2014a).

Graduate Teacher Standards					
3. Plan for and implement effective teaching and learning	Exc	VG	S	D	ND
• Uses professional knowledge to identify a range of learning goals and sequences.					
• Plans lessons which integrate a range of activities, resources and materials.					
• Is responsive to difference in students' abilities, cultural identities and backgrounds in planning and implementing plans.					
• Uses a range of verbal and non-verbal communication strategies to support student engagement					
• Manages time effectively in planning for and implementing teaching and learning					
• Shows flexibility in implementing lesson plans and meeting curriculum objectives					
Comments/Evidence:					

Figure 1. Extract of the 'MTeach Secondary Professional Experience Assessment Report'.
(Source: Monash University, 2014a).

For the fifth participant/respondent the 'MTeach Early Years Professional Experience' report form was used (Monash, 2014b). An extract of the proforma is shown in Figure 2. In this case the PSTs' mentor teacher during their practicum, and the expert teacher educators were instructed to use the following key:

For 'Progressive/Progress Assessment': **S = Satisfactory NI = Needs Improvement**
and for

'Final Assessment': **VC = Very competent C = Competent US = Unsatisfactory**

GRADUATE ATTRIBUTES	Progress Assessment		Final Assessment		
	S	NI	VC	C	US
PLAN FOR EFFECTIVE LEARNING WHICH IS BASED ON CHILDREN'S STRENGTHS AND INTERESTS					
Demonstrates some understanding of organising small group learning experiences					

Gaining some skills in organising small group learning experiences					
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Figure 2. Extract of the ‘MTeach Early Years Professional Experience’ report form.
(Source: Monash University, 2014b).

The ‘MTeach Early Years Professional Experience’ proforma had ten sections. Section 1: ‘Knowledge of child development theories and research’ had two assessment criteria. Section 2: ‘Know the children they teach’ had one criterion. Section 3: ‘Know and understand the diversity of Australian society’ had one criterion. Section 4: ‘Have a sound knowledge of current learning, teaching and assessment theories’ had two assessment criteria. Section 5: ‘Plan for effective learning which is based on children’s strengths and interests’ had two criteria. Section 6: ‘Evaluate and reflect on teaching and learning with a view to improvement’ had one criterion. Section 7: ‘Create and maintains safe and challenging learning environments’ had two assessment criteria. Section 8: ‘Establishes positive relationships with parents, colleagues and members of the community’ had one criterion. Section 9: ‘Demonstrate skills for effective communication’ had two criteria. And section 10: ‘General professional attributes’ had six assessment criteria, making 20 in all.

It is important to note that when the mentor-teacher completed the LOOP-format lesson observation/evaluation instrument they uploaded it to their personal, secure, password protected, LOOP Google Drive Folder. In this project the lesson observation/evaluation instruments completed by the expert teacher educators were *not* shared with the pre-service teachers. Some members of the LOOP reference group thought this may be a limitation, given that the underlying goals of initial teacher education are to train pre-service teachers who understand the need to use formative assessment effectively, for example, sharing assessment criteria meaningfully with those being assessed so they may at least know what they are aiming for. Considering the weight given to deeper, more meaningful conversations and dialogue, as outlined above, there is a case to be made for focusing some part of any *pre-observation* meeting on in-depth discussion about how a lesson is best assessed using the specific lesson observation instrument. For example, the Australian Institute for Teaching and School Leadership Limited (**aitsl**, 2014, p.1) in their guidance about their ‘Classroom Practice Continuum’ state “observers gather objective evidence of practice in the classroom. Outside the classroom, they locate this evidence on the Continuum. This forms the basis for a collaborative conversation with the observed teacher”. So the notion of a classroom practice continuum, locating evidence on that continuum and in-depth *post-observation* conversations

linking practice and theory have been anticipated by the **aitsl**, although they may not as yet be entirely familiar to all pre-service teachers and their mentors.

Since this LOOP research is concerned with pre-service teachers being assessed against the **aitsl** 'Level 1 Graduate' teacher standards then how does a pre-service teacher or mentor-teacher know, or decide, what constitutes 'Excellent, Very Good, Satisfactory, Developing or Not Demonstrated' within a particular standard? The "Evaluation of the Pre-Service Teacher's Learning and Development" report form in the Monash 2014 MTeach (Secondary) Placement Guide, (Monash, 2014, p.21) indicates the five possible categories, but provides no guidance, for example, as to what characterizes 'Excellent' in relation to features of the standard performed to an excellent degree. In an assessment rubric (as with the **aitsl**'s Classroom Practice Continuum) the standards (or criteria) to be assessed are often arranged as horizontal rows. The column cells of those rows of such a rubric are typically the differentiated levels of performance criteria, or proficiency arranged in ascending order often, but not always, from left-to-right, or from the bottom of a rubric to its top (Harris et al, 2012; Humphry and Heldsinger, 2014). For a lesson observation instrument to be considered a rubric each graduate teacher standard row ought therefore to have a sequence of consecutive 'assessment/evaluation criteria' cells each accurately representing a specific differentiated level of performance, arranged in ascending order in line with a scale moving, for example from 'Developing' to 'Satisfactory' through 'Very Good' to 'Excellent'.

Three further points about the 2014 MTeach (Secondary) "Evaluation of the Pre-Service Teacher's Learning and Development" report form are worth noting. Firstly it does anticipate that mentor-teachers must provide evidence to 'support their observations' for each of the graduate Australian Teachers' Standards. A LOOP-format evaluation, with its video evidence and multi-dimensional portfolio of evidence would therefore be very much in-line with that expectation. Next, it states that the report "forms part of the pre-service teacher's **formative assessment**." (Monash, 2014, p.21). This indicates that the LOOP reference group discussion suggesting that mentors sharing the lesson observation instrument with pre-service teachers in *pre-observation* meetings could help very effectively model formative assessment was a very astute and pertinent issue. The relevant extract from the placement guide/report form is reproduced below:

It is important that mentor teachers provide evidence to support their observations for each of the standards. This report forms part of the pre-service teacher's **formative assessment**. Therefore, for Semester 1, it is important that mentor teachers relate details of performance **at this stage of the pre-service teacher's learning and development**. (Monash, 2014, p.21).

The second point worthy of note relates to the paragraphs at the top of page 23 of the 2014 placement guide – the fourth page of the report form. In the context of understanding and conceptualizing mentors’ ‘usual practice’ it states that the report is anticipated to be completed ‘at the conclusion of the placement’. This had implications for the relative timing of the LOOP-format evaluation that each pre-service teacher and their mentor arrived at. For example, given our preceding narrative, the student and their mentor might have reasonably decided to conduct their LOOP-format ‘lesson snapshot’ around the mid-point of the student’s placement period of teaching experience – i.e. typically in week 3 of a 5 week period of ‘full control’. The mentor would therefore not be obliged to write up the ‘report form’ until the end of the last week of the student’s placement. Consequently it was worth investigating precisely when the pre-service teacher and their mentor decided to conduct their LOOP-format ‘lesson snapshot’ because one of our hypotheses was that the students, and mentors, would prefer to carry out the LOOP-format evaluation in the last week of placement. For the student that would mean they had accumulated the most weeks of teaching experience possible in the placement, whilst for the mentor it meant that, whatever their ‘usual practice’ the LOOP-format ‘lesson snapshot’ and its evidence-based portfolio were at least still fresh in their minds. The relevant extract from the placement guide/report form is reproduced below:

At the conclusion of the placement, mentor teachers are asked to comment on the student's progress and development during the practicum. The University seeks your advice as to whether the student has completed the placement satisfactorily. Please indicate below whether your overall recommendation is Satisfactory or Unsatisfactory.

Tick the appropriate box which represents your opinion of the pre-service teacher’s performance in this placement.

- Satisfactory
 Unsatisfactory

N.B: Satisfactory levels of completion for the first teaching practicum are defined as acceptable levels of performance **at this particular stage** of the pre-service course, leading to the satisfactory achievement of the Graduate Teacher Standards **at the end of their course**. (Monash, 2014, p.23).

The third point about the report form used by mentors is the note that states “Satisfactory levels of completion for the first teaching practicum are defined as acceptable levels of performance **at this particular stage** of the pre-service course” (Monash, 2014, p.23). Semantically this is an interesting sentence. It indicates that at the end of the first practicum *satisfactory* teaching across the graduate teacher standards is *defined* as an *acceptable* level of performance. The implication being that significantly large numbers of ‘Very Good’ grades/ratings on the report form would be considered to indicate an above-acceptable level

of performance. Similarly, significantly large numbers of 'Excellent' grades/ratings on the report form would be considered to indicate a level of performance right at the top of the range of pass grades/ratings. A dimension of the mentor-teachers' 'usual practice' that was important to explore was the evidence they wrote about in support of their judgements about lesson grades and ratings, and indeed spoke about in their audio feedback critiques of their pre-service teachers' LOOP-format evaluations. Part of the reason this dimension became important is because even for those mentor-teachers with as little a year or two of mentoring experience the guidance set out in the Monash 2013 MTeach (Secondary) Professional Placements Manual may have influenced their 'usual practice'. Consequently this gave us a rare opportunity to study year-on-year influences and pressures in relation to mentor-teachers' 'usual practice' and whether or not it develops and improves over time.

In relation to what was headed "Phase 2: Observation (Mentor) / Experience (Pre-Service Teacher)" in the model guidelines for placement supervision the 2013 Monash MTeach (Secondary) Professional Placements Manual stated:

Having decided upon the focus of the observation, the task of the mentor is to carefully observe the lesson and systematically collect information that can be provided to the pre-service teacher in order to reconsider the lesson from a different perspective (i.e. mentor, students). The mentor can be of most help to the pre-service teacher by noting down detailed examples of verbal/nonverbal interactions related to the agreed focus that can be provided to the pre-service teacher following the lesson. It is important that this record is descriptive rather than evaluative, in order that the pre-service teacher him/herself can begin to make sense of the data collected, rather than being filtered through the mentor's knowledge and experience, first. (Monash, 2013, p.22).

So the 2013 Placements Manual made it clear that the lesson notes that the mentor recorded should be "descriptive rather than evaluative". This was important to our LOOP research because one of our hypotheses was that the content of the mentor-teachers' lesson notes and audio feedback critiques of lessons may have been influenced by their prior-experiences with the 2013 (and earlier) 'model of supervision' if they had previous years of experience as a mentor and had indeed mentored recently (Monash, 2013, p.21).

In the conclusion to the section headed "Phase 3: Post-lesson Conferencing" in the model guidelines for placement supervision the 2013 Monash MTeach (Secondary) Professional Placements Manual it was stated:

The mentor and pre-service teacher should discuss the lesson, concentrating on agreed areas of focus for that particular lesson. The feedback offered by the mentor should take the form of **description** rather than interpretation of events and **specific instances** rather than generalities. (Monash, 2013, p.22).

So again the 2013 Placements Manual made it clear that the *feedback* from the mentor to the pre-service teacher “should take the form of **description** rather than interpretation of events”. This meant that in 2013 (and prior to 2013) mentor-teachers were expected to record lesson notes and feedback to pre-service teachers in the ‘form of *description* rather than *interpretation* or *evaluation* of events’ (Monash, 2013, p.21-22). Clearly then a line-of-inquiry for our LOOP research was to what extent the previous ‘model of supervision’ had influenced, and was evident in, the notes the mentors recorded about the pre-service teachers’ lessons, especially on the lesson observation instrument, as well as in the content of their audio feedback critiques.

As David Cooper, one of the authors of this paper, pointed out in a LOOP reference group meeting in July 2014 in Masters’ level teaching programmes it is often the case that a distinguishing feature of Masters’ level assignments and practical professional qualifying experiences is that they are expected to include significant evidence of critical (self-) reflection, analysis and evaluation. In the context of the preceding discussion about mentors’ ‘usual practice’, the aforementioned TEMAG (2014) agenda and the literature analysis of the ‘model guidelines for placement supervision’ above, it may well be that this conception of Masters’ level *criticality* is something about which mentor-teachers and pre-service teachers will need much more *consistent* and *rigorous* training. This appears to support the TEMAG’s (2014, p.9) contention, explored earlier, that “the *rigour* of the assessment of pre-service teachers undertaking professional experience ... has been criticised with some arguing for greater *consistency* in [the] assessment of classroom readiness”. So part of the response to the TEMAG’s (2014, p.9) key question: “How can consistency of good practice and continuous improvement across teacher education providers and schools be assured?” may well be to implement LOOP-format evaluations across Australia, whilst at the same time provide much more *consistent* and *rigorous* training specifically about Masters’ level *criticality* in pre-service teachers’ periods of professional teaching experience.

Some context about the use of audio feedback critiques in formative and summative assessments

Results from the National Student Survey for Higher Education in England often indicate dissatisfaction with the quality and amount of feedback they receive about their assignments and professional practice (Carruthers et al 2014, Voelkel and Mello, 2014; Cann, 2014; Rhind et al, 2013; Brearley and Cullen, 2012; Attenborough et al 2012; McFarlane and Wakeman,

2011). Final year students are surveyed about their experiences using a 5-point Likert scale from 'strongly disagree' up to 'strongly agree' across a range of categories, one of which is 'Assessment and feedback'. In an era of rapidly advancing technologies in which students are comfortable, and familiar, with a range of mobile/portable audio-visual devices such as 'smart phones', mp3 recorders, i-pods, i-pads, laptops, tablet-PCs and so on, audio feedback, or audio debriefing, variously also referred to as verbal or spoken feedback, is said to be "highly acceptable to students, but is underused" (Cann, 2014, p.31).

In our LOOP research the pre-service teachers' school-based mentor teachers recorded audio feedback/ debriefing critiques about the teaching captured in video recorded lessons. Typically the mentor would record their audio feedback/debriefing critique using a free recording program such as Audacity whilst watching the pre-service teacher's video recorded lesson. It was recognised very early on in the research that mentor-teachers (and later the expert teacher-educators involved in our LOOP study) needed some pre-recording guidance to enable them to record their audio feedback/debriefing critiques as effectively as possible. Since each video recorded lesson was typically an hour in duration the audio feedback needed to be done in a very quiet/near silent, disturbance-free, recording environment (Hennessy and Forrester, 2014, p.787). Most mentor-teachers used a relatively straightforward laptop or PC set-up in which they played the video recorded mp4 lesson file on screen whilst listening to the audio from the videoed lesson via one ear phone/head phone speaker. By listening using only one ear phone/head phone mentor-teachers found it was much more straightforward to voice record their spoken/audio feedback because they could then 'hear themselves' speaking clearly into their computer's microphone.

An aspect of the LOOP research we sought to study was whether the pre-service teachers thought they benefited from a continuous hour's worth of audio feedback/debriefing critique. And/or whether they subsequently believed with hindsight it would be better to edit out particularly key passages of the lesson as video clips/exemplar excerpts for specific focus and debriefing. In phase two of the LOOP project (that took place early 2015) focus group interviews with pre-service and mentor/supervising teachers further explored the feelings of both cohorts in relation to the benefits and drawbacks of this specific form of audio feedback/debriefing critique. Marsh and Mitchell (2014, p.411) suggest the "optimum time given to observing teaching is subject to debate". Writing about Office for Standards in Education, Children's Services and Skills [OfStEd] inspector visits to observe lessons in English schools Cladingbowl (2014) notes:

On average, inspectors may spend only 25 minutes or so in each lesson. It would be nonsensical to suggest that an Ofsted inspector could give a definitive validation of a teacher's professional competency in such a short time. ... We would not expect any other professional, for example a surgeon, to be judged by peers on a single 25 minute observation of their work. (p.5).

According to Hannafin et al (2014, p.164) "Recently, nearly one-half of the U.S. states and the District of Columbia participated in the edTPA initiative, which requires, in part, the pre-service teachers submit a 15-20 minute video of their teaching for review". For example, some of the latest edTPA Assessment Handbooks state the following:

Select **1–2 video clips (no more than 20 minutes total)**. The interactions in the clips should demonstrate how you (1) establish a positive learning environment and (2) engage and support the focus learner in an individual or group setting and in developing and applying the new knowledge and skills related to the **primary learning target**. (edTPA Special Education Assessment Handbook; September 2014, p.10).

- Identify lessons to video record. You should be interacting with students to develop their conceptual understanding, procedural fluency, **AND** mathematical reasoning and/or problem solving skills.
- Video record your teaching and **select 1 or 2 video clips (no more than 15 minutes total)**.
- Analyze your teaching and your students' learning in the video clip(s) by responding to commentary prompts. (edTPA Secondary Mathematics Assessment Handbook; January 2013, p.6).

Tripp and Rich's (2012) review of studies about video analyses of teaching noted that:

the length of the videos used for reflection varied from 3-minute clips of a lesson to an entire teaching episode. ... the majority of the participants in Sharpe *et al.* (2003) thought the length of the video used for reflection should be longer than 3 minutes, while Pailliotet (1995) stated that the process of viewing an entire video was time consuming and claimed that it was impossible to complete a deep viewing session with each student. Additional research is needed to determine if there is an ideal length for teachers to reflect on and if shorter or longer videos affect teachers' ability to reflect on their videos. Such an analysis could then be extended to examine the resulting effect on teachers' subsequent classroom practice. (p.684).

Another aspect of the audio feedback/debriefing critique for this LOOP study that interested us was how the mentor-teachers (and later the expert teacher-educator academics) approached the actual process of their 'remote' [i.e. at a distance to the real-time lesson], asynchronous debriefing. For example, did the mentor watch the whole lesson again on video prior to recording their audio feedback? (having already been in the lesson and observed it in real time). Did the mentor use any written notes they may have taken whilst observing the lesson in real time to help create particularly important audio feedback tagged to specific times during the lesson? Did the mentor/supervising teacher create a script of lines of their audio feedback/debriefing critique, again tagged to specific times during the lesson? It is beyond the scope of this article to address the findings to all of these issues here, as it is to discuss potential differences in using audio feedback/debriefing for formative assessment and/or summative purposes (McFarlane and Wakeman, 2011).

For Carruthers et al (2014, p.4) a focus of their research was students' "perceptions of audio feedback made available via [their university's] Virtual Learning Environment (VLE) for various types of assessment". They concluded that there were certainly benefits to using their VLE to provide audio feedback but cautioned:

audio files may need to be made available to students via email for those who still experience technical difficulties, and feedback time needs to be set aside to provide face-to-face feedback and the annotated hard copies to those students who want to discuss and review their feedback with the tutor. Carruthers et al (2014, p.10).

According to Pardo et al (2015) "there are few studies exploring the relationship between video annotations, student approaches to learning and academic performance". Their research has focused on the use of visual annotations of video-recordings rather than audio annotations. Pardo et al (2015, p.256) point out that:

While traditionally, video has been a passive and one way activity more recent advances in video technologies have included time-stamped annotation features whereby students can make comments and reflections for themselves as well as sharing with peers and instructors. ... The Collaborative Lecture Annotation System [CLAS] – a web-based video annotation application ... offers two types of annotations. The first form of annotation allows the insertion of a general comment about the video. The second is a time-stamped annotation whereby a comment is made directly related to a specific point in the video time-line. (p.256).

As Cooper et al (2015, p.10) has pointed out the search for a free, (zero cost) stable, straightforward to install and operate video-annotation tool to simply tag/time-stamp parts of the trainees' video-recordings of lessons they judge to be important and representative of their teaching has been one of the most problematic aspects of the ongoing LOOP research and development thus far, although the VideoFragmentRating (VFR) software being developed in the Netherlands may be a possible innovative solution (Hulsman and van der Vloodt, 2015). The fact that the Carter Review of ITT (2015, p.39, paragraph 2•2•4) and the Sahlberg et al (2014) Review of ITE in Northern Ireland both emphasise the key importance of "beginning teachers observ[ing] and analys[ing] their own ... teaching" highlights the critical importance of evidence-based video-recording of student teachers' teaching in their placement/ practicum schools (Cooper et al, 2015, p.10).

To conclude this section about the context of audio annotations of video-recorded lessons two recently published pieces of research are worth noting. Firstly Bergman (2015) has explored the effects of audio and video self-recording on preservice teachers' written reflections of their teaching practice. He found that the recording format – audio or video – "did not lead to significant differences in participants' reflection on their various instructional behaviors except for two aspects: the video group gave more attention to non-verbal behaviors and

movement around the classroom” (Bergman, 2015, p.127). This disparity between the video and audio groups is understandable given that “those in the video group could actually watch themselves, whereas those with an audio-recording could only listen” (Bergman, 2015, p.136). Secondly, Henderson and Phillips (2015) in their study of video-based feedback on students’ assessments found that “the majority of students valued the video feedback over text-based forms. In particular, video-based feedback was reported by students as being individualised (specific) and personalised (valorising identity and effort); supportive, caring and motivating; clear, detailed and unambiguous; prompting reflection; and constructive, which led to future strategizing” (Henderson and Phillips, 2015, p.51).

Some findings about the audio feedback/debriefing critique (verbal commentary) files

Whilst initially it was hoped to conduct the Australian LOOP research with at least 20 preservice teachers and their mentors during the five weeks of the PSTs’ periods of teaching experience only five participants were recruited, four from the MTeach Secondary programme and one from the MTeach Early Years’ ITE course. It is therefore not possible to draw up any generalisations from the Australian LOOP research and development thus far. In feasibility testing of the LOOP concept between 2012 and 2014 Cooper (2015) found that the five 2012-13 Teach First participants he tutored universally felt that having at least five of their in-school lessons videoed and then having the opportunities to study them, analyse them and reflect more deeply in their reflective journal assignments utilizing them was some of the very best, personalised, bespoke/tailored professional development they had across their whole year of teacher training. The five Teach First participants were all under 25 years of age and had very recently graduated with high honours from ‘Russell Group’ universities in England. They were three scientists, one mathematician and one historian.

In the Australian LOOP project the feasibility of using video-recordings to enhance the professional experience dimension of preservice teacher education and assessment was successfully established. The five Australian student-teachers all successfully used the Flip HD cameras, wide-angled lenses and tripods to self-record their lessons. They all successfully compressed their video in order to make the video file transfer and upload to their personalised, secure, password protected LOOP Google Drive folder straightforward and ‘time efficient’. The upload of lesson plans, PowerPoint presentations, self-evaluations of their lessons in terms of WWWs and EBIs was well done in the majority of the five cases. In only two instances were pupils’ outputs from lessons uploaded to the participants’ LOOP

Google Drive folders and this was disappointing given the briefings prior to the commencement of the project as well as reminders and specific requests during and after the participants' periods of teaching experience in their placement schools.

In the recent report by Phillipson, Cooper and Phillipson (2015) the verbal commentaries (audio annotations of the video-recorded lessons) provided by two of the supervising teachers of two of the MTeach Secondary PSTs were transcribed, analysed thematically and then categorised against one or more of the seven Australian Teachers' Standards (Phillipson, Cooper and Phillipson, 2015, p.11). The two supervising teachers were asked for their feedback about the LOOP and 'verbal commentary' processes in terms of their potential as professional development activities. Their responses to the two questions posed are shown in Table 1.

* Question 1. Has watching the recording and providing the commentary affected your ability for reflective practice?	
Teacher A - Supervisor of PST 1	Teacher B - Supervisor of PST 2
Video allowed me to look at both the PST and my own teaching/good for self-evaluation	"Sorry for being negative"/Process added another unnecessary layer/process of recording commentary could not be done immediately/technology was not helpful/couldn't feel class/camera perspective was limiting/not sure how process was relevant to my reflective practice/provides additional perspectives of [PST]/[students] not natural.
* Question 2. Has the commentary feedback has enhanced the quality of your feedback to the PST? If so, how?	
I usually provide detailed notes on the lesson and then discuss them with the PST/The video takes a lot of time to watch, think, prepare feedback and [then] record feedback/not something I want to do all of the time/timely feedback would be a struggle.	Process has not enhanced quality of feedback/May add to anxiety of [PST]/exaggerates "bad" feedback/diminishes impact of "good" feedback/unable to get "a read" on the [PST] and where they can go.
* Questions are paraphrased from the original.	

Table 1
Summary of response by supervising teachers (n=2) to question:
Can LOOP enhance reflective practice?

Phillipson, Cooper and Phillipson (2015) noted that the LOOP was not problematic for the PSTs (n=5) or their mentors/supervising teachers (n=2). The video and audio annotation technologies, personalised LOOP Google Drive Folders and files, together with the Professional Experience Assessment Report (PEAR) for mentors to evaluate the PSTs were easily navigated and negotiated by the PSTs and their mentors.

Some of the benefits and drawbacks of conducting evaluations of pre-service teachers' teaching performances using the LOOP process

As Cooper, Phillipson and Phillipson (2015) have noted the various aspects of conducting a LOOP evaluation of a PST's teaching performance have been successfully feasibility tested in England and Australia. Commenting on a LOOP-type e-portfolio 'The Carter Review of ITT' (2015, p.45) states:

It allows trainees to evaluate their progress and collate evidence drawn from university and school-based training against the Teachers' Standards. As an online learning space, it enables all those involved (for example, mentors and tutors) to interact and view the materials remotely and monitor and track trainee progress. It strengthens dialogue between partners and is useful for early tracking and intervention strategies that support trainee development. Trainees have found this a really effective way of storing evidence of meeting the Teachers' Standards electronically, without creating excessive amounts of paperwork. By uploading work to their e-portfolio, trainees always have access to their work and the file, as well as staff, despite being miles apart. (Carter, 2015, p.45).

According to Cooper (2012; 2015) the LOOP process has at least ten potential benefits:

1. the student-teachers may get to see themselves teach for up to four hours and across four different lessons with four different classes.
2. the video files can be transferred to DVD (or a 'cloud', secure, on-line high capacity file server such as Google Drive or Drop box) and the student-teachers can take away with them up to four hours of videoed lessons to keep and carry forward into their induction and 'recently-qualified' years (Carter, 2015, p.43, paragraph 2•4•15). It is worth noting that Carter (2015, p.43, paragraph 2•4•15) and Sahlberg et al (2014, p.12, paragraph 3•20) point out that "There is evidence internationally that, however effective initial teacher education may be, it is, in itself insufficient: structures are also needed to ensure that newly qualified teachers are well supported during their induction year and indeed throughout their careers".
3. the video files of the student-teachers' two lessons from 'school- attachment 1' could form the basis of some new, creative and innovative university *taught time* spent looking at what the student-teachers thought went well in their videoed lessons and how they could go about improving their teaching.
4. the video files of the student-teachers' two lessons from 'school-attachment 1' could form the basis of some new, creative and innovative university *assignments* about reflective practice, what the student-teachers think went well in their videoed lessons and about what performance targets they need to address during attachment 2.
5. combined with some of best/cost-effective video-analysis software that allows users to upload, tag and annotate segments of the videos student-teachers could closely scrutinize particular aspects of their teaching to the extent, for example, of looking at the time they spend talking to/at the whole class in 'teacher-led' episodes and the time pupils spend learning from 'rich mathematical tasks'.

6. the potential would exist to ask school-based mentors to video examples of good/very good /outstanding lessons by *experienced* teachers, for example ‘Excellent teachers’/‘Advanced Skills Teachers’ to build up a video library of resources in relation to translating good/very good/outstanding lesson plans into good/very good/outstanding lessons.
7. the potential would exist to create effectively a whole new branch of CPD in relation to self-analysis (and possibly expert analysis in the future) reflective practice and performance coaching/rehearsals and so on using DVDs (or secure ‘cloud’ data e-portfolios) of ‘real-time’ lessons.
8. the feasibility trials suggest that for comparatively little outlay, compared, for example, to the potentially very high costs (and data-protection/company software restrictions) of a commercially available system, a great deal of very valuable, worthwhile, creative and innovative initial teacher preparation and research about initial teacher preparation can be done.
9. handled well the processes and procedures of the initial ‘Four DVD entitlement’ proposal could make the University’s PGCE and CPD course(s) distinctive and attractive to student teachers and experienced teachers.
10. handled well the concept and ‘operationalization’ of the many dimensions and aspects of the ‘videoing of teaching experience’ could be a ‘centre of expertise’ that the university could develop. Potential further areas, already discussed at the STEM-SIG could be the videoing of school-mentor-to-student-teacher feedback/debriefings about lesson observations as well as university tutor-to-student-teacher feedback/debriefings.

According to Cooper (2012; 2015) the LOOP process has some potential drawbacks and issues that need to be addressed:

1. the key issue is about negotiating access to video recording the four lessons for each student-teacher. The encouraging thing is that lots of schools see the common sense of a ‘21st century’ approach to looking at the performance of student-teachers. To be effective and to make a difference to the culture of CPD the initiative would have to be supported at each level. If our university does not move forward then other universities, most probably from the Russell Group, will overtake us with regard to video-enhanced ITE.
2. the feasibility field-trials have been conducted with no funding from the university, for example the author had to buy his own FLIP camera to be sure that the battery would last more than 50 minutes. The author suggests looking at the performance of his FLIP camera against, for example an affordable smart/mobile telephone that has High Definition video and

audio capabilities. For instance, the Best Foot Forward project (2015) and the ‘Mathematics Teachers and Teaching Survey’ (Anderson, 2014) both utilize the SWIVL system combined with Samsung Tablets for the video recording of teachers’ lessons. Some of the issues about ‘portability’ (i.e. transporting the equipment safely when travelling to, and whilst on school visits, positioning and setting up the videoing equipment in classrooms ...) and the design of a professional, yet easily to assemble, video system need to be looked at.

3. issues about who may have access to the video recordings will need to be clarified. Some, probably many, teachers may well give their permission for their lessons to be used for the purposes of positive, constructive teacher preparation/continuing professional development/ video clubs.

4. issues about training university tutors to safely transport and assemble the video system, record the video and then save it to the LOOP (and burn a copy to DVD) will need attention. If the tutors are asked to do more in the sense of videoing and saving video files then some other aspect of their roles will need to be decreased to compensate.

5. support-centred issues, particularly in relation to video-compression, video-editing, video-editing as well as burning copies of DVDs for the student teachers (and perhaps the attachment schools) to have as well as keeping the video cameras well-charged and optimally operational are also important to maintain the systems and their effectiveness and efficiency.

A brief summary of some of the implications for enhancing PSTs’ professional experience of teacher education using the LOOP process

According to Carter (2015, p.53) “ITT has a crucial role in instilling the importance of evidence-based teaching in new teachers and giving them the knowledge and skills to access, evaluate and interpret research to apply in their teaching”. As we have seen both the Carter Review of ITT (2015) and the TEMAG final report (Craven et al, 2014) support the use of e-portfolios for the assessment of PSTs. As Cooper, Phillipson and Phillipson (2015) have pointed out the fact that the Carter Review of ITT (2015, p.39, paragraph 2.2.4) and the Sahlberg et al (2014) Review of ITE in Northern Ireland both emphasise the key importance of “beginning teachers observ[ing] and analys[ing] their own ... teaching” highlights the critical importance of evidence-based video-recording of student teachers’ teaching in their placement/ practicum schools. What is missing at the moment in England is the support/ compliance requirements of, for example, the edTPA teacher-licensing framework in the USA which actively requires student-teachers to submit video clips representative of their actual teaching in schools (Cooper, 2015; Hannafin et al, 2014; Sun and van Es, 2015, p.5) or

the financial support/incentives associated with the Measures of Effective Teaching [MET] project/Harvard University 'Best Foot Forward' project (Root, 2014; Walsh, 2014). For example, Sun and van Es (2015) note:

As part of Task 3 of the Performance Assessment for California Teachers (PACT) Teaching Event, preservice teachers videotape a lesson and self-select either a continuous 15-to-20 minute clip or two lesson segments edited together lasting no longer than 20 minutes that demonstrate their ability to teach mathematics (p.5).

If evidence-based teaching and teacher education is to become an important aspect of training beginning teachers then all teacher-training courses in England must include the requirement for all trainees to video-record at least two lessons in their placement/practicum schools (as a minimum specification, for example one lesson teaching a Key Stage 3 class and another teaching a Key Stage 4 class). In a technologically advancing 21st century it would also be prudent for beginning teachers to engage in advanced reflective practice activities, with the specific aim of teaching and developing the particular skills and aforementioned processes associated with professional vision. At a basic level the trainees could be required to record, edit, annotate, self-analyse and self-evaluate at least two of their in-school lesson videos. For each lesson trainees could produce three video clip excerpts, of between five and seven minutes in duration that they felt were representative of their teaching in the beginning part, middle and plenaries of their lessons. They would need to annotate or tag/time-stamp those video clips in relation to aspects of their teaching that went well and those that would have been even better if ... The clips would also need to be referenced to the DfE 2012 Teachers' Standards (DfE, 2012). Producing transcripts of the clips would also be important to identify aspects of pupil-teacher interactions and dialogue as we have been trialling with our PGCE cohorts in their microteaching events which form part of PSTs "approximations of practice" (Gamoran Sherin and Dyer, 2013, p.9).

What the small-scale study of the ICALT lesson evaluation instrument reported in Cooper, Phillipson and Phillipson (2015) may suggest is that it may be possible to use it in conjunction with the LOOP process of collecting together a range of evidence about PSTs' lessons to reliably reach shared consensus-understandings about the quality of their teaching. The fact that 24 teachers can achieve high percentages of inter-rater consensus about the quality of the teaching they have observed from two video recordings may indicate that combining the best elements of the LOOP technological process and the ICALT lesson evaluation validity and reliability research could produce a cost-effective and workable dimension of preservice teacher formative professional development (Cooper, 2015; van de

Grift et al 2014). The issue of cost-effectiveness ought not to be diminished in terms of discussing findings because economic austerity in Europe means that the \$45 to \$50 million spent on using video for teacher evaluations in the Measures of Effective Teaching [MET] project and the follow-up 'Best Foot Forward' project in the USA is beyond the budgets of most European countries (Root, 2014; Walsh, 2014).

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Notes.

In 2013 in England the OfStEd inspectorate replaced the satisfactory grade/rating with ‘requires improvement’.