Lesson Study: a Collaborative Approach to Scholarship for Teaching and Learning in Higher Education
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Abstract

The Scholarship for Teaching and Learning has become an important field of inquiry, focusing on the development of new and critical pedagogic approaches in Higher Education. It is a broad field leading to the emergence of a number of contrasting perspectives concerning the development of insights into teaching and learning. In this paper, we explore the potential for Lesson Study to act as a framework for reflecting on and developing pedagogic practice in the university sector.

Originating in Japan over a century ago, Lesson Study is a collaborative tool for analysing and developing understanding of student learning. This makes it an ideal tool for capturing and interrogating new and critical insights into teaching and learning. An outline framework is suggested for developing the use of Lesson Study in higher education and we discuss how it can form a positive methodology for extending the work of Scholarship of Teaching and Learning.

Introduction

Since the publication of *Scholarship Reconsidered* (Boyer 1990), the Scholarship of Teaching and Learning (SoTL) has become an important, if contested, vehicle for practical activity and research into teaching in higher education. As a field, SoTL has developed conceptually, and continues to offer a fertile focus for debate concerning the place of teaching within the Academy and how best to develop better, more critical pedagogic practice. One fundamental aspect of the various frameworks and philosophies which have emerged is the need for a 'serious investment' (Shulman, 2000, p.49) in reflecting on and understanding teaching and learning by those willing to enquire into, and change, pedagogic practice. In this position paper, we argue that Lesson Study, a method for considering the learning challenges experienced by students and exploring the pedagogic responses to them, offers great potential for augmenting the work of SoTL. In addition, we suggest that it offers a positive framework for both more informal reflection by practitioners as well as a research tool for those wanting to pursue in-depth and critical enquiry.

The Scholarship of Teaching and Learning

Arguments for the systematic interrogation of academic and professional practice are not new and can be traced back to the work of Schön (1983, 1987) on reflective practice. Shulman's idea of a 'pedagogy of substance' (1989) and his challenge to what he calls a 'pedagogy of solitude' (1993) both focused attention on the development of a more public debate around pedagogic practice. These early perspectives were an attempt to analyse, develop and share insights into practice development. However, it was the publication of *Scholarship Reconsidered* (Boyer, 1990), which

acted as the initial rallying call that led to the field of Scholarship of Teaching and Learning. At this time, SoTL was an attempt to bring a scholarly perspective to teaching and learning as a way of raising their profile within the Academy. Healy (2000, p.170) argued that, following a decade of interest in this emerging field, there remained questions as to how a scholarly approach to teaching might be realised:

‘... It is suggested that teachers in higher education institutions need to learn how to adopt a scholarly approach to teaching and how to collect and present rigorous evidence of their effectiveness as teachers.’

Healy also emphasised that SoTL should develop an emphasis regarding the student experience by considering and reporting insights into learning. Meanwhile, Kreber and Cranton (2000) developed a focus on the forms of knowledge and understanding lecturers should look to develop, identifying three aspects which, in their view, characterised SoTL, namely:

1. Instructional knowledge: consideration of what is taught.
2. Pedagogical knowledge: how the content should be taught to foster student learning
3. Curricular knowledge: consideration of why elements of teaching and learning are taught in particular ways

While emphasising different elements of the debate, these examples of the early insights into SoTL demonstrate a serious search for a meaningful framework for the understanding of teaching and learning within higher education. They also demonstrate an early feature of SoTL, that of a contested field searching for both meaning and application in practice.

Advocating an activity-led approach to SoTL, Trigwell and Shale (2004) developed a model which attempted to bring together critical engagement with the act and enquiry of teaching, whilst also (as with Healy 2000) seeing student experience and learning as an imperative for research and practice, ‘a concept that links teacher knowledge and student learning.’ (2004, p.524). This led Trigwell and Shale to argue that Scholarship of Teaching should be based on a commitment to making clear in public discussion of teaching how learning has been made possible (following from Trigwell et al 2000). Consequently, they outline a practice-oriented framework which is founded on the active inclusion of learners within the process, resulting in ‘...a *learning partnership, rather than an instructional relationship.*’ (Trigwell & Shale 2004, p. 529). This leads to a three-part model of scholarship of teaching which involves the use and development of:

1. Knowledge - this component of the framework outlines the nature of the knowledge base lecturers bring to the act of teaching, including elements such as prior experience of disciplinary knowledge, and conceptualisation of teaching and learning.
2. Practice - including investigation and evaluation of teaching, reflection on practice and communication of the insights gained: ‘the art of teaching at the core of this model.... is the act of academic engagement in deliberate, collaborative meaning-making with students.’ (Trigwell & Shale, 2004 p.530).
3. Outcomes - this covers the outcomes of teacher and student collaboration, namely their learning from the process, including artefacts created through that process.

These three elements together provide the basis for the critical study of pedagogy in higher education and opportunities for the public sharing of insights from the process. Hence, SoTL takes on a practical nature, and appears to share many characteristics of action research which has emerged as a popular methodology in HE research on pedagogy (for example, Burchell & Dyson 2005; Greenwood 2012).

The contributions outlined above might be characterised as focusing on activities and pedagogic perspectives which constitute a scholarly approach to teaching and learning. Consideration of the ethical and philosophic is exemplified by Kreber (2005) who develops a critical lens towards SoTL, and Skelton (2009) who emphasised the moral dimension. Kreber (2005) argues for the place of SoTL as a process of opening up the pedagogic debate to encompass a wider perspective considering the philosophical foundations of teaching. The importance of change in practice is emphasised, particularly with respect to emancipation and empowerment as drivers to advance and open the pedagogic act to new ways of thinking. The chance that SoTL may become a closed and narrow technicist pursuit is challenged,

‘... there is a danger for scholars of teaching to pursue primarily instrumental, and perhaps interpretive or communicative rather than emancipatory, knowledge about their practice in student learning.’ (Kreber 2005, p.402)

Kreber therefore puts forward an explicit agenda which sees change and improved action as being at the core of SoTL whilst ensuring this is achieved through a wider lens of more general change within higher education; here, teaching and learning are seen as part of a wider educational agenda. She argues that a critical postmodern lens leads to 3 implications for SoTL:

1. The need to see SoTL as ‘critical enquiry’ thereby calling into question how it is practised and by/for whom.
2. Wider considerations including evaluating the form and content of curricula and the purpose of the University.
3. Based on these, a critical discussion of what curricula and pedagogies are appropriate within HE and why these are appropriate.

Skelton (2009, p.109), focusing particularly on the concept of teaching excellence, argues for a moral stance on teaching and learning, stating that:

‘For me ‘excellence’ can only follow from a serious commitment to the reflexive development of a value-laden and morally defensible practice.’

This practice is defined as requiring a personal philosophy of teaching:

‘the need to develop a personal standpoint on teaching is necessary...’ and ‘the need to live out educational values in practice’ (Skelton, 2009, p.109),

leading to teaching excellence as a moral pursuit. Further, at institutional level, this moral perspective should foster varied cultures of debate and practice, promoting in turn to the sharing and growth of ideas and practices within a supportive environment, an alternative to reliance on sets of externally generated standards. Finally, he argues that this can only occur where teaching and research are not set against each other, but are brought together to ‘support a holistic notion of excellence.’ (111). Therefore, SoTL may begin to take on a wider and more critical character linked to the development of pedagogic practice through an activity based approach (Trigwell & Shale 2004) while also being critical (Kreber 2005) and moral (Skelton 2009) in nature.

Despite the wide-ranging literature on HE pedagogy, questions remain over the role of SoTL in the wider Academy. Kreber (2002) discusses the complexity surrounding the meaning of Scholarship of Teaching and its relation to both excellence and expertise in teaching. McFarlane (2011) critiques SoTL as actually debasing research into teaching and argues for a greater level of theorisation, policy and practice orientated work, with research and teaching as an integrated whole. He argues that

‘the distinction between ‘subject-based’ and ‘pedagogic’ research is entirely erroneous. What really matters is whether a piece of research is based on sound methods, has something interesting or useful to ‘say’ and has been properly peer-reviewed before publication.’ (2011, p.127-128).

The discussion and debate relating to the form and focus of SoTL is therefore still alive and keenly contested just as much as it was over two decades ago when Boyer (1990) first considered the relationship between teaching and research. However, there are interesting aspects within the work of those discussed above which can be synthesised to build a framework to bring together some interesting aspects of a Scholarship of Teaching and Learning. These include a commitment to understanding and extending knowledge, to generating a practice-led perspective on teaching and learning, while also ensuring a moral and critical dimension.

Kreber (2013) has also extended her critical perspective on SoTL to consider the role which evidence plays in deepening and extending our understanding and practice of teaching and learning. She critiques the notion of ‘evidence-based practice’ as being too narrow as it attempts to nullify the complexity and unpredictability that is the day-to-day reality of academic practice. She argues that a ‘what works’ agenda may also tend to focus on efficiency, but not the wider aspects of why we are engaged in a particular practice. Taking Habermas’ (1971) three knowledge-constitutive interests as a starting point and using the work of Mezirow’s (1991) three forms of learning, Kreber creates a tripartite basis for the action of teaching:

1. Instrumental learning - understanding and developing what is effective in teaching;
2. Communicative learning - understanding how students experience particular learning processes, i.e. how desirable we believe our strategies are in relation to the aims and philosophies we bring to our pedagogies;
3. Emancipatory learning - exploring assumed values, norms and traditions, as a starting point for considering alternatives.

These help our understanding of the wider ramifications of the action of teaching, and our own learning. Kreber (2013) also argues that the pedagogic questions we ask ourselves are not necessarily answerable through a scientific reflection alone, but must also include evaluation of the moral aspects of practice. Consequently, she argues that SoTL requires us not only to ask ‘what works’, but also ‘what is to be done’ and ‘why’.

Drawing together the perspectives developed in the last two decades, we can begin to move towards making sense of a contested field, despite its complexity. Here, we bring together three perspectives concerning the nature of SoTL to suggest a holistic model of teaching and learning. An activity based approach (such as Trigwell & Shale 2004), founded on an understanding of pedagogic literature as a basis for the development of practice and reflection is augmented by emphases on personal philosophies and moral imperatives. Developing practices that are ethically defensible (Skelton 2009) and which are linked to a broader critical landscape (Kreber 2005, 2013) provides the foundation for a deep engagement with pedagogic practice and change. In addition, practices need to be developed through a critical use of research via an ‘evidence-aware’ perspective which sees research insights as a useful starting point for further personal development, rather than as an order to follow. This leads us to suggest a multiple perspective model of Scholarship of Teaching and Learning as a basis for developing collaborative study of teaching and learning in HE (Figure 1).

If models such as that given in figure 1 are to be realised at a practical level, then ways of engaging in structured activity and/or research are vitally important. One approach, whose core is based on developing an understanding of the interplay of teaching and learning, is that of Lesson Study, proposed in the next section.

An overview of Lesson Study

Lesson Study has been used as a method for improving student learning and teacher pedagogy for well over 100 years. It originated in Japan in the latter part of the 19th century (Nakatome, 1984, as cited in Fernandez & Yoshida, 2004) where it initially grew as an informal, teacher led approach based on developing professional dialogue, and from there developed into a more formal and national-scale approach to teacher development (Katagiri, 1990, as cited in Sarkar Arani, Fukaya & Lassegard, 2010). This long-term development in the use of Lesson Study in Japan, has led to a national culture of teacher self-improvement driven by use of the technique across the school sector, and also in some University contexts.

Due to the apparent utility of Lesson Study, the technique began to spread to other education systems in Asia, including China, Singapore, Hong Kong and Indonesia. In addition, after the publication of a book called *The Teaching Gap* (Stigler & Hiebert 1999), Lesson Study has also been increasingly adopted in the USA, and latterly within parts of Europe, including England, Norway, Sweden and Spain. The method has been used predominantly within a school-based context, both primary (Trapero, 2013) and secondary (Cajkler, Wood, Norton & Pedder, 2014), but has also been used in a number of different contexts within initial teacher education (Tsui & Law 2007; Cajkler, Wood, Norton & Pedder 2013) its use within higher education has been very limited as outlined below.

Lesson Study is a long established teacher-led collaborative approach which focuses on improving both the professional learning of teachers and student learning. The approach is founded on the principle that a collaborative process between teachers has the potential to bring new insights and professional development to their work. In higher education, the collaboration, in its most basic form, is structured around collaborative planning by a group of lecturers (university teachers), leading to the design of a lesson, what in higher education we shall call a 'research seminar' although this may take the form of a workshop or interactive lecture. While this seminar is taught by one of the team, the others observe, focusing on the learning of a small number of case students

(Dudley, 2014). This is followed by an evaluative process where all of the team help to deconstruct and understand what has been experienced and observed during the 'research seminar'.

The point of departure for Lesson Study is a critical review of areas of difficulty in student learning, leading to the identification of a specific 'learning challenge'. It should be stressed that the learning challenge needs to focus on a relatively specific area of activity, such as a specific skill or area of subject content. This challenge might take the form of a particular approach or skill that students often struggle with, such as the writing of a first long written assignment, a concept such as understanding 'ontology' within a research methods course, or it may deal with an area of subject content. The critical foundation for choosing a learning challenge, however, is that it should be based on developing student learning, rather than being a focus on expanding the teaching repertoire of the Lesson Study group.

The learning challenge acts as the basis for developing the 'research seminar', whether a workshop, a practical or a lecture which tackles the chosen focus. Henceforth in this paper for ease of reference, we will use the term 'seminar' for the different teaching and learning contexts that can act as the sites for collaboration in Lesson Study. Most seminars will only be one or two hours long, although there is no reason why longer seminars could not be considered for developing a research seminar. The group meets to discuss the chosen learning challenge and from this discussion they build a detailed plan of the seminar to be taught. The central core of discussion in the planning meeting should be concentrated on a deep consideration of which factors the group believe are often responsible for the challenge occurring and how these factors can be most effectively addressed during the course of the seminar. This provides the basis for a relatively detailed plan (see the example in appendix 1), which outlines the order and nature of activities to be undertaken during the seminar, preferably with some indication of timings. Once this element of the planning has been achieved, the group then uses their knowledge of the students to predict the types of observable response and student learning for each stage of the seminar. At the heart of the planning process lies the Lesson Study group's discussion which engages participants in critical consideration and sharing of ideas. This is in stark contrast to the pedagogic solitude that characterises much planning and teaching in academic settings.

Once the research seminar has been planned, one member of the group acts as the seminar teacher, whilst the others in the group act as observers. A crucial aspect of Lesson Study is that observation is focused upon students as opposed to the lecturer. This means that observers are often located at either the sides or the front of the teaching seminar rather than at the rear as it is important that they can observe student reactions (Lewis, 2002), facial expressions and interactions with others. During the taught seminar, observers make detailed notes on student reactions to the activities planned, including any similarities and differences to the (expected) responses predicted at the planning phase. After the research seminar has concluded, the teacher and observers meet as a group and evaluate what has been experienced. Once again, it is important, within the philosophy of Lesson Study, that the evaluation focuses on the learning of the students rather than the performance of the lecturer. Consequently, all members of the group, including the teacher should be equal participants in discussing the degree to which they believe students have overcome the learning challenge on which they have chosen to focus. The principle of positive mutual regard (Dudley, 2014) should govern colleagues' discussion that takes place at any point in the research cycle, but perhaps especially so in the post-seminar evaluation. Where possible, the group can also amend the seminar that they have planned, drawing insights from their observations, in order to repeat the seminar with a parallel group, where available. If possible, another member of the group

teaches on this second occasion, with the remainder of the members once again observing. This gives a basic Lesson Study cycle, as shown in figure 2.

Figure 2: A basic Lesson Study cycle

Procedurally, the cycle may look simple, but in essence lesson study engages teachers in a complex iterative process. Collaboration in lesson study cycles opens up for detailed investigation the pedagogic black box (Cajkler & Wood, 2015), offering participants rich opportunities not only to explore teaching through the eyes of case students, but also to realise more fully what it means to be a teacher who learns from teaching (Sims & Walsh, 2009).

In school-based Lesson Study, groups can be quite large, with between four and seven teachers, although triads are also relatively common. In these contexts, groups may make use of an external consultant or academic acting as a more knowledgeable other (Burghes & Robinson, 2009). The intention here is for an individual to act as a critical friend and source of expert knowledge concerning the implementation of Lesson Study. However, it is not a mandatory element of the process to have such an external presence.

Lesson Study's spread to England also brought some variations to the traditional Japanese version of the process which were pioneered by Peter Dudley (2012, 2014). Two major elements that were developed through his work were the focusing of the observational element of the cycle, and also a greater inclusion of student reflection about the learning that occurs within the research seminar. He argued that an attempt to observe all students within the group (within a school context this might typically be approximately 30 students) leads to a dilution of the quality of the observations made. Therefore, he suggests that each observer should only attempt to observe two or three students (called 'case students'), but to do this in detail. As a consequence, he also suggests that during the planning meeting, the chosen students for observation should be identified and that notes should be developed of the expected learning reactions of those individuals. This requires thought concerning those students who are to act as a sample, leading to the notion of 'archetypal' students, i.e. individuals who share common traits with a wider group of individuals within the

seminar. These case students act as lenses through which the impact of the lesson and its approach to the learning challenge can be viewed and collectively evaluated. The choice of case students might be based on ability, level of language acquisition or any other element of student learning which is relevant to the learning challenge.

The degree to which learning can be deemed to be an observable act depends upon how learning as a process is defined. Nuthall (2007) discusses the complexity of the process of learning which he sees as being reliant on both interactions with the teacher and with other students, as well as individual processes, some of which might be observed (what he calls the semi-invisible layer), but others of which will not, as they are internal mental processes (the invisible layer). Likewise, Illeris (2007) identifies three dimensions to learning, the social, emotional and cognitive. Once again, much of the process of learning is internalised and is not observable. This means that any attempt to draw conclusions on the learning of students through observation alone will always be partial, at best, and at worst wholly inaccurate. Therefore, Dudley (2014) suggested the use of student interviews after the conclusion of a seminar to allow the Lesson Study group to gain direct insights into student reflections upon their own learning during the seminar. Taking these two additional elements together gives us a more nuanced and slightly different approach to Lesson Study, summarised in figure 3.

Figure 3: Augmented HE Lesson Study cycle using student interviewing and focused observation

Lesson Study, therefore, is a powerful tool for focusing on challenges which students face within their learning and the development of potential insights and solutions to help overcome those challenges. However, although Lesson Study has proved popular within education at a school-age level, there is far less use of this approach at university level.

Some research into Lesson Study does exist at university level, predominantly from the USA. Cerbin and Kopp (2006), outlining in detail the approach they have used, developed one of the most

extensive uses of the technique at HE level through their College Lesson Study Project (CLSP). At its most extensive, 150 faculty across a number of subjects were involved in the use of Lesson Study. At the centre of their approach was the idea of an emphasis on how students learn rather than what they learn. They achieved this by using an approach they call 'cognitive empathy', which involves putting themselves in the role of the students during the planning phase in an attempt to understand the learning experience from that perspective. As such, they see a crucial element of the planning phase as being the development of seminars which make student thinking 'visible'. Cerbin and Kopp (2006, p.254) believe that Lesson Study is a very positive approach to building pedagogic knowledge as it 'encompasses the full complexity of teaching and learning in the context of a single lesson.'

Some researchers (Becker, Ghenciu, Horak & Schroeder 2008, Alvine, Judson, Schein, & Yoshida 2007) focus their studies on what they learned from being involved within the Lesson Study process, both in terms of student and faculty learning. Alvine et al (2007) stress that Lesson Study is a very positive method for introducing pedagogic issues to young lecturers and postgraduate students involved in instruction as it helps them understand some of the basic approaches and issues relating to pedagogy. This is a view supported by work completed by Dotger (2011) with graduate teaching assistants (GTAs) in an American earth sciences faculty. Here, there was evidence that GTAs gained both new professional skills and shifting identity through their involvement in Lesson Study, which moved them beyond a belief that subject knowledge was sufficient to prepare and execute well considered learning experiences. Evidence from this research also suggested that Lesson Study encouraged the development of a teaching community amongst the GTAs and led them to consider their work from a more learning-focused perspective. This collaborative approach has similarities to the engagement of new faculty by Koch et al (2002) in using a research oriented approach to creating communities of scholarship.

Demir, Sutton-Brown, & Czerniak (2012) found that Lesson Study was less well received by a small number of maths and science faculty who struggled to understand the philosophy of the approach and who also found it difficult to realign their thinking to consider learning from the perspective of the students. Even though the participants found the use of Lesson Study a beneficial experience, Demir et al (2012) believe that it is important to help faculty understand the philosophy behind the approach, as well as securing a greater amount of time for them to engage with the process.

In a rare research project beyond the USA, Christiansen, Klinke, & Nielsen (2007), working with Danish undergraduate pharmacy students, found that the use of Lesson Study improved student course evaluations, while also helping to create a more community-led approach to teaching among lecturers. They report that, by being involved in Lesson Study, lecturers drew more on each other's' experiences and began to create a shared base of knowledge about teaching which ultimately led to a better learning experience for students.

These studies demonstrate that there is a great deal of potential in using Lesson Study within higher education, but that the approaches taken need to be contextually adapted and sustainable. There is no one prototypical approach to Lesson Study (Lewis, personal communication). Below, we suggest one potential basic framework for developing Lesson Study at University level, but only as an outline structure which needs to be debated and refined to meet the needs of particular local contexts.

A suggested model for adoption of Lesson Study in higher education

The Lesson Study cycle shown in figure 3 offers a clear structure for Lesson Study in schools. However, there are important differences between that environment and those of most universities. Firstly, depending upon the context, there may be greater local variation in the number of lecturers who can, or wish to, come together to use Lesson Study as an approach. Therefore, group sizes may vary and indeed be as small as a dyad; the crucial element in forming a Lesson Study group is that there needs to be collaborative discussion, and this is certainly possible, even with only two people. Secondly, in many cases there might not be the opportunity to repeat a research seminar on a regular basis or at all. In our own research on Lesson Study, we have focused on the learning of international Masters students who function as a single group. This means that the insights we gain from cycles of Lesson Study can be used in two ways: firstly, to give us more general insights into student learning, and as a result, allow us to take those insights and feed them into the next cycle of Lesson Study. Therefore, rather than evaluations leading to modified versions of a single lesson, they are used to inform learning insights and to generate new approaches to addressing a variety of learning challenges in subsequent seminars.

Cerbin and Kopp (2006) highlight the importance of attempting to make thinking visible, particularly through the use of cognitive empathy. Whilst this approach may enable us to uncover thought processes to a greater degree than usual, it is still the case that much of student learning will remain hidden within internal cognitive processes. Therefore, we agree with Dudley (2014) that the use of student interviewing, after the research seminar has finished, is an important (nay, essential) part of the process. Furthermore, we would suggest the use of stimulated recall interviewing (Lyle 2003). In this form of participative Lesson Study, students bring to the interview their notes, other products and any electronic devices they have used for discussion during the research seminar. The interview then focuses on facilitating the recall of students concerning their learning and thinking during the seminar, using the artefacts as stimuli. We accept that this is an imperfect method as students will no doubt have forgotten elements of their experience by the time the interviews are conducted, and they will only be able to reflect on thought processes they were conscious of at the time as well as any afterthoughts which emerge through the discussion. Nevertheless, the interview gives an invaluable insight into elements of their learning process which cannot be captured during the observation of activity in the research seminar itself.

Therefore, during Lesson Study cycles in HE, a wealth of data can be collected. Data capture, for reflective and research purposes, can make use of many methods (figure 4) to enable thick and rich analysis that can lead to enhanced understanding of the learning that takes place during a Lesson Study cycle.

Planning	Lesson		Evaluation	
<ul style="list-style-type: none"> • Audio record planning meetings • Plans • Resources 	<ul style="list-style-type: none"> • Observation notes • Student work • Video recordings 	<ul style="list-style-type: none"> • Individual stimulated recall interviews 	<ul style="list-style-type: none"> • Audio record of meetings • Notes of the meeting 	<ul style="list-style-type: none"> • Individual interviews • Focus groups

Figure 4. Framework of data capture opportunities in Lesson Study

This data capture framework relates to an amended Lesson Study cycle which can be seen in figure 5, although obviously this should be seen as a general framework rather than a recipe to be followed.

Figure 5: Outline Lesson Study framework for use in Higher Education

Scholarship of Teaching and Learning as a basis for Lesson Study

Earlier in this paper, it was suggested that Scholarship of Teaching and Learning (SoTL) might usefully be investigated through the lens of Lesson Study. Three potentially important strands of SoTL were emphasised as being central to developing a deep, critical understanding of practice in teaching and learning. The activity led dimension of practice which is emphasised and developed by Trigwell and Shale (2004) articulates in several ways with the Lesson Study approach, including the desire to develop knowledge and conceptualisation of teaching and learning, and how this relates to disciplinary knowledge within given contexts, leading to investigation, evaluation and reflection on both teaching and student learning. However, beyond this immediate practical utility, Lesson Study also offers the opportunity to consider the wider critical aspects of pedagogic practice. Kreber (2013) highlights the need to move beyond a simple 'what works' agenda to also consider questions such as why certain approaches might be used within a wider critical and moral framework. Using her consideration of Mezirow's (1991) three forms of learning, Lesson Study has the potential not only to help understand and develop what is effective in teaching (instrumental learning), but also to consider why we see certain approaches as being desirable through understanding student

experience (communicative learning), and through this to explore our own assumed values and norms as a basis for developing and realising alternatives (emancipatory learning). Such discussions will no doubt rely to a degree on a 'what works' basis, but only as a starting point for a wider discussion based upon a 'research-aware' perspective. This latter approach highlights that research should only offer initial signals and evidence for developing rich contextually-sensitive pedagogies. This points towards the third element of our suggested model of SoTL, the need for an explicit moral dimension in practice. This is important in two ways, firstly, it asks us to consider our philosophies of teaching and learning as an iterative process embedded within collaborative discussions with others, and secondly, forces us to confront our own ethical stance as moral agents. At a fundamental level, teaching is an inherently ethical task. Where we have the opportunity for open discussion with others concerning the development of teaching and learning through an approach such as Lesson Study, we are given the chance to consider and reflect upon our own philosophies and values. When thinking about teaching, including our philosophies, values and practice become a shared public act in Lesson Study, we find ourselves in forms of professional collaborations that begin to combat the pedagogic solitude that is a feature of many lecturers' lives. In our opinion, it is when key philosophies and values are considered and reflected upon in relation to practice by participants that Lesson Study has a potential to become transformative, rather than acting as a mere instrumental activity to bring surface change.

Biesta (2014) talks of the need for teachers to develop educationally wise judgements over long periods of time. Such judgements can only come from an engagement with, and understanding of, the wider pedagogic literature fused with the emergence of practice based on the 'serious investment' identified by Shulman (2000, p.49). This suggests the need to move beyond instrumental and narrow 'recipes' to critical and more holistic praxis. Lesson Study can be used as a relatively simple and 'shallow' approach to developing practice if followed as a predetermined method and 'given' approach to developing practice. However, by fusing this method with insights from the field of Scholarship of Teaching and Learning there is huge potential for deep, critical engagement with issues of teaching and learning. This process would allow for greater public sharing of knowledge and ideas about teaching. In the words of Hiebert, Gallimore, and Stigler (2002, p.12), we argue that teachers need to 'operate in a system that allows them to treat ideas for teaching as objects that can be shared and examined publicly.....' This collaborative, critical engagement could act as a basis for continued development of pedagogic practice within the wider context of changes in the aims and practice of higher education.

References

- Alvine, A., Judson, T.W., Schein, M. & Yoshida, T. (2007). What Graduate Students (and the rest of us) Can Learn From Lesson study. *College Teaching*, 55(3), 109-113.
- Becker, J., Ghenciu, P., Horak, M., & Schroeder, H. (2008). A college lesson study in calculus, preliminary report. *International Journal of Mathematical Education in Science and Technology*, 39(4), 491-503.
- Biesta, G.J.J. (2014). *The Beautiful Risk of Education*. Boulder, CO: Paradigm Publishers.
- Boyer, E. L. (1990). *Scholarship reconsidered: Priorities of the professoriate*. Princeton, N.J: Carnegie Foundation for the Advancement of Teaching.

- Burchell, H., & Dyson, J. (2005). Action Research in Higher Education: exploring ways of creating and holding the space for reflection. *Educational Action Research*, 13(2), 291-3000.
- Burghes, D., & Robinson, D. (2009). *Lesson Study: Enhancing Mathematics Teaching and Learning*. Reading: CfBT Education Trust. <http://www.cimt.plymouth.ac.uk/papers/lessonstudy.pdf>
- Cajkler, W., & Wood, P. (2015). Lesson Study in initial teacher education. In P. Dudley (Ed.), *Lesson Study: Professional learning for our time*. (pp.107-127) Abingdon: Routledge.
- Cajkler, W., Wood, P., Norton, J., & Pedder, D. (2014). Lesson study as a vehicle for collaborative teacher learning in a secondary school. *Professional Development in Education*, 40,(4), 511-529.
- Cajkler W., Wood P., Norton J., & Pedder D. (2013). Lesson Study: towards a collaborative approach to learning in Initial Teacher Education? *Cambridge Journal of Education* 43(4), 537-554.
- Cerbin, W., & Kopp, B. (2006). Lesson Study as a Model for Building Pedagogical Knowledge and Improving Teaching. *International Journal of Teaching and Learning in Higher Education*. 18(3), 250-257.
- Christiansen, F.V., Klinker, B., & Nielsen, M.W. (2007). Lesson study as a format for collaborative instructional change. *Pharmacy Education*, 7(2), 183-185.
- Demir, K., Sutton-Brown, C., & Czerniak, C. (2012). Constraints to Changing Pedagogical Practices in Higher Education; An example from Japanese lesson study. *International Journal of Science Education*, 34(11), 1709-1739.
- Dotger, S. (2011). Exploring and developing graduate teaching assistants' pedagogies via lesson study. *Teaching in Higher Education*, 16(2), 157-169.
- Dudley, P. (2012). Lesson Study developments in England: from school networks to national policy. *International Journal the Lesson and Learning Studies*, 1(1), 86-100.
- Dudley, P. (2014). *Lesson Study: a handbook*. <http://lessonstudy.co.uk/wp-content/uploads/2012/03/new-handbook-revisedMay14.pdf>
- Fernandez, C., & Yoshida, M. (2004). *Lesson Study: a Japanese Approach to Improving Mathematics Teaching and Learning*. Abingdon: Routledge.
- Greenwood, D.J. (2012). Doing and learning action research in the neo-liberal world of contemporary higher education. *Action Research*, 10(2), 115-132.
- Habermas, J. (1971). *Knowledge and human interests*. Boston, MA: Beacon Press.
- Healey, M. (2000). Developing the scholarship of teaching in higher education: A discipline-based approach. *Higher Education Research and Development*, 19(2), 169-189.
- Hiebert, J., Gallimore, R., & Stigler, J. W. (2002). A Knowledge Base for the Teaching Profession: What Would It Look Like and How Can We Get One? *Educational Researcher*, 31(5), 3-15.
- Illeris, K. (2007). *How We Learn: Learning and non-learning in school and beyond*. Abingdon: Routledge.
- Katagiri, Y. (1990). *Jiyuminken ki kyoikushi kenkyu: Kindai kokyoiku to minshu*. Tokyo: Daigaku Shuppankai.

- Koch, L.C., Holland, L.A., Price, D., Gonzalez, G.L., Lieske, P., Butler, A., Wilson, K., & Holly, M.L. (2002). Engaging new faculty in the scholarship of teaching. *Innovative Higher Education*, 27(2), 83-94.
- Kreber, C. (2002). Teaching excellence, teaching expertise, and the scholarship of teaching. *Innovative Higher Education*, 27(1), 5-23.
- Kreber, C. (2005). Charting a Critical Course on the Scholarship of University Teaching Movement. *Studies in Higher Education*, 30(4), 389-407.
- Kreber, C. (2013). Empowering the Scholarship of Teaching and Learning: An Arendtian and Critical Perspective. *Studies in Higher Education*, 38(6), 857-869.
- Kreber, C., & Cranton, P.A. (2000). Exploring the Scholarship of Teaching. *The Journal of Higher Education*, 71(4), 476-495.
- Lewis, C. (2002). *Lesson Study: A Handbook of Teacher Led Instructional Change*. Philadelphia: Research for Better Schools.
- Lyle, J. (2003). Stimulated recall: a report on its use in naturalistic research. *British Educational Research Journal*, 29(6), 861-878.
- Macfarlane, B. (2011). Prizes, pedagogic research and teaching professors: lowering the status of teaching and learning through bifurcation. *Teaching in Higher Education*, 16(1), 127 – 130.
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco, CA: Jossey-Bass.
- Nakatome, T. (1984). *Konaikenshu o tsukuru: Nihon no konaikenshu keiei no sogoteki kemkyu [Developing konaikenshu: a comprehensive study of management of Japanese konaikenshu]*. Tokyo: Eidell Kenkyusho.
- Nuthall, G. (2007). *The Hidden Lives of Learners*. Wellington: NZCER Press.
- Sarkar Arani, M.R., Fukaya, K., & Lassegard, J. (2010). 'Lesson Study' as Professional Culture in Japanese Schools: An Historical Perspective on Elementary Classroom Practices. *Japan Review*, 22, 171-200.
- Schön, D. (1983). *The Reflective Practitioner, How professionals think in action*, New York: Basic Books.
- Schon, D. A. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. San Francisco: Jossey-Bass.
- Shulman, L. S. (1989). Toward a pedagogy of substance. *AAHE Bulletin*, 8-13.
- Shulman, L. S. (1993). Teaching as community property: putting an end to pedagogical solitude. *Change*, 25(6), 6-7.
- Shulman, L.S. (2000). From Minsk To Pinsk: Why A Scholarship Of Teaching And Learning? *The Journal of Scholarship of Teaching and Learning*, 1(1), 48-53.

Sims, L., & D. Walsh (2009). Lesson Study with Preservice Teachers: Lessons from Lessons. *Teaching and Teacher Education: An International Journal of Research and Studies*, 25(5), 724-733.

Skelton, A. (2009). A 'teaching excellence' for the times we live in? *Teaching in Higher Education*, 14(1), 107-112.

Stigler, J., & Hiebert, J., (1999). *The teaching gap: Best Ideas from the World's Teachers for Improving Education in the Classroom*. New York: The Free Press.

Trapero, N. P. (2013). Lesson Study and practical thinking: a case study in Spain. *International Journal for Lesson and Learning Studies*, 2(2), 115 – 136

Trigwell, K., Martin, E., Benjamin, J., & Prosser, M. (2000). Scholarship of teaching: a model. *Higher Education Research and Development*, 19(2), 155-168.

Trigwell, K., & Shale, S. (2004). Student learning and the scholarship of university teaching. *Studies in Higher Education*, 29(4), 523-536.

Tsui, A. B.M., & Law, D.Y.K. (2007). Learning as boundary-crossing in school–university partnerships. *Teaching and Teacher Education*, 23, 1289–1301.