Sharing Professional Practice – Tutors have their say

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Abstract

This paper analyses the theoretical construct of professional practice knowledge; the 'tacit knowledge' that all teachers use when engaging with digital technologies. To reach this end and to gather the views of tutors, a framework developed by Mishra and Koehler –Technological Pedagogical and Content Framework (TPACK) – was employed. This was used in parallel with the Flanders Interaction Analysis Category (FIAC) Framework to collect semi-structured interview and interaction analysis data. This paper will present a selection of the data gathered and analysed using the TPACK framework.

The research found that faculty need ongoing training opportunities where they can develop their professional practice in order to use Synchronous Computer Mediated Conferencing (SCMC) tools to design interactive sessions that are not teacher dominated. The paper recommends that HE institutions design a signature pedagogy for academic staff and students on how SCMC technology can be used within specific online interactive programmes.

It also found that there is a need for academic staff to capture their own professional practice; to sit back and ask, what is going on here? Having reflected on their practice, tutors should then be encouraged to share their own experiences, or their tacit knowledge, with their peers. Institutions can then begin to capture and reflect on this 'hot action' around the use of SCMC technologies. Ultimately this information may help faculty to design learning experiences that will improve student-learning.

1. Introduction

There is growing evidence (Allen & Seaman, 2015) that many higher education (HE) institutions are moving some or all of their course offerings online. Over the past few years, there has also been a growing trend, of HE institutions offering live online learning opportunities to their learners. Typically, these online sessions are made possible by the use of synchronous computer mediated conferencing (SCMC) technologies, such as Adobe Connect and Blackboard Collaborate. The increased use of these technologies has generally led to a positive 'hype' within HE institutions (Veletsianos, 2010), because these technologies are thought to facilitate traditional face-to-face interaction. There are even claims that they recreate the face-to-face classroom online and yet, there is currently a lack of shared professional practice in relation to how teachers are using these tools to

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design engaging learning experiences for their learners (Laurillard, 2012). Thus, this paper attempts to capture the practices colleagues engaged in during a series of online live tutorials and to consider how they and their educational institutions could potentially enhance professional practice in the future.

1.1 Background

This paper explores the practices a group of online tutors, teaching on an online Masters programme for teachers, engaged in while teaching on SCMC sessions. The Masters programme, was entirely online and it consisted of three distinct elements – pre-recorded digital content (the lecture); an online forum and live tutorials which took place weekly at a scheduled time in the course calendar (see Figure 1).

Figure 1: *Components of the online Masters Programme*

Students were expected to attend these live events where tutors and students were online together at the same time. These events were facilitated by a SCMC tool, AT&T Connect, and the events were described, as tutorials, in the Course Handbook where students would have opportunities to unpack the pre-recorded lesson content. Therefore, these events were expected to explore and deliberate on the rich lesson content that students were expected to have engaged with in advance of the tutorial. However, having led several tutorials I began to question if indeed these events were being used as opportunities to 'unpack' the lesson content and if students were engaging in critical discussion. I thus surveyed the students to ascertain their perceptions of the purpose of these live events (see Table 1). The survey data appeared to suggest that students, who were all practicing teachers, primarily saw these events as opportunities to revisit content and to ask questions. However, the data also suggested that only a minority of teachers, circa 20%, saw these events as providing opportunities for them to work in small groups or to present their work to colleagues. This finding raised several concerns, as it suggested that students viewed these events as predominantly teacher-led and that students were relatively passive observers, rather than active participants.

Table 1: Student Perceptions of the Purpose of Tutorials

Tutorial Purpose	Percentage
Opportunity for the tutor to present new content	57%
Opportunity for the tutor to revise content presented in the recorded session	93%
Opportunity for students to raise questions and discuss the lesson content	100%
Opportunity for students to work in small groups	20%
Opportunity for students to present their work to colleagues	21%

These responses seemed at odds with much of the literature associated with teaching online, that advocated the use of social-constructivist teaching approaches (Rovai, 2004; Pallof and Pratt, 2007 and 2011; Stavredes, 2011). Therefore, it was decided to investigate what was taking place in these 'online tutorials' and to capture the professional practices tutors engaged in during these live events.

1.2 Teacher Professional Practice Knowledge

Professional practice knowledge is often referred to as the 'tacit' or 'craft' knowledge that teachers use to carry out their daily work as teachers (Eraut, 1994 and Loughran, 2010). Eraut (1994) took a broad view of professional knowledge and defined it as including "procedural knowledge, propositional knowledge, practical knowledge, tacit knowledge, skills and know-how" (Ibid, p.16). Unfortunately, professional knowledge, in contrast to scientific knowledge, is often "little studied and little discussed" (Eraut, 1994, p. 39). Though, other professions, such as medicine, place great store on codifying and sharing such knowledge, it appears that education places less value on this type of knowledge (Loughran, 2010).

Furthermore, Eraut noted that professional practice can be very difficult to capture, particularly where verbal activities are prevalent and he noted that, "the unscripted and intuitive nature of much verbal action makes attempts to describe or criticise it equally different" (p. 42). It raises the question of how do we catch it while it is in the ether, because once the moment has passed the evidence is gone. In addition, he noted that it is particularly challenging to capture such knowledge within 'performing' professions, like teaching, where immediate action is required. He uses the term "hot action" to describe what goes on in such settings and he notes that:

> *the teacher has no time at all to reflect: choices made during the preparation of teaching may be decision-governed, but those made during the course of teaching are largely intuitive. The pressure for action is immediate and to hesitate is to lose.*

(Eraut, 1994, p. 53)

In the case of live tutorials this is particularly the case. Tutors can prepare for the tutorial by developing slides on the key concepts they wish to present or discuss, but when the event begins they must depend on their 'tacit' knowledge to engage their students by providing opportunities for interaction. Live tutorials can be unnerving for an inexperienced tutor speaking into the ether for the first time and awaiting a response from students they can't see. There is often a delay in receiving student responses and this 'wait time' can be unsettling for many tutors, who often rush to fill the silence. Thus, live online tutorials require tutors to engage in 'hot action', because if they don't there is a danger their students will disengage and they may even leave the event.

Eraut notes that to survive and function in such complex environments professionals require routines and rituals to enable them to operate and to cope with this complexity. He argues that it is too stressful for them to just rely on their instincts in such settings. Therefore, teachers require complex practice knowledge to successfully mediate these events and it typically requires them to have high levels of knowledge in several domains. They should have well developed knowledge: of the subject matter, they are teaching; of how to teach such knowledge and how to use SCMC technology effectively to engage their learners. Thus, it appeared that teachers needed to have a sound knowledge of all three areas if they were to successfully navigate the 'hot action' of an online tutorial without it becoming an overly stressful event.

1.3 TPACK

The work of Lee Shulman (1986) and his notion of pedagogical content knowledge (PCK), that is the knowledge teachers require to transform their subject matter for their teaching seemed very appropriate to this study as it is "a concrete example of thinking about the knowledge of practice" (p. 45). Shulman's work has been extended to include digital technology in recent years by the work of Mishra and Koehler (2006) who have built on PCK to create the Technological Pedagogical And Content Knowledge framework (TPACK) to facilitate philosophical discussions around the nature of knowledge and technology usage.
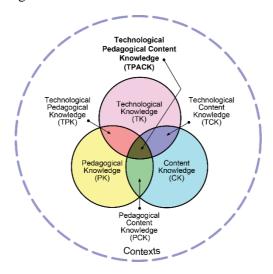

Figure 1: TPACK Framework (Reproduced by permission of the publisher, © 2012 by tpack.org)

The TPACK framework consists of seven constructs of knowledge that make-up TPACK. These are as follows:
- Content Knowledge (CK);
- Pedagogical Knowledge (PK);
- Technological Knowledge (TK);
- Pedagogical Content Knowledge (PCK);
- Technological Pedagogical Knowledge (TPK);
- Technological Content Knowledge (TCK); and
- Technological Pedagogical and Content Knowledge (TPACK).

There are three core types of knowledge; CK content knowledge, PK pedagogical knowledge and TK technology knowledge. The interaction of these three types of knowledge creates four additional constructs. When a teacher has all three types of knowledge we can say that they have TPACK and such knowledge is context dependent. For example, if a psychology tutor has strong levels of

TPACK they are knowledgeable; about their content or subject knowledge; about the strategies and approaches to teaching this content using digital technology.

TPACK is an emerging theoretical framework and some have questioned whether TPACK is a singular entity or a composition of all seven constructs. Though it is an emerging conceptual framework it was used in this study to categorise the issues tutors discussed during their semi-structured interviews and not to measure the level of knowledge tutors possessed in relation to each of the constructs. While recognising TPACK has limitations (for example Cox and Graham, 2009 and Graham, 2011), it was hoped to add to theory in this area by testing the suitability of the framework, particularly in the context of synchronous online tutorials.

2. Methods

Thus, this study set about capturing the routines and practices tutors typically engaged in during their live tutorials by asking the following questions:

- How were tutors and students *interacting during these events*?

- What *professional practice knowledge* did tutors possess to design and lead these tutorials?

- Were there *clear ground rules* in relation to online tutorials?

It used a case study design to illuminate what was going on in the tutorials and the following definition by Schramm (1971 in Yin, 2009, p. 17) appeared very appropriate for the study.

> The essence of a case study, the central tendency among all types of case study, is that it tries to illuminate a ***decision*** or set of decisions: why they were taken, how they were implemented, and with what result. [emphasis added by Yin]

Ultimately, I wanted to illuminate the decisions tutors made in relation to how they structured their tutorials, why they structured them as they did and what impact these decisions had on the subsequent interactions with their students. Therefore, I wanted to observe at firsthand how tutors interacted with their students and to discuss with them the consequences of these decisions. Yin (ibid, p. 11) stated that case study facilitated "direct observation of the events being studied and interviews of the persons involved in the events" in his critique of this approach. Thus, it seemed well suited to this study because so little was known about the interactions that took place during the tutorials and the case study strategy appeared to provide the flexibility necessary to study what took place.

2.1 Semi-structured Interviews

I decided to interview the tutors about their professional practice because interviews are, "a conversation with a purpose" (Robson, 2002, p.228) where data tends to occur naturally and the conversation can be treated as an analyzable text (Silverman, 2000). Semi-structured interviews were selected as the most appropriate interview method as they provide the interviewer with a shopping list of questions and provide greater freedom (Robson, 2002) and flexibility (Gillham, 2000) in the sequencing and wording of questions. Such a method allows the researcher to develop different question lists across a range of interviews and it facilitates the probing of interviewee answers. Furthermore, it is recognised to work well in case study, particularly if one is working with a small number of people who are accessible and if the questions are open and allow for extended response (ibid). Though a clear structure is critical the interviewer does need to be 'flexible' when interviewing participants.

The interview schedule (Appendix 1) contained twelve questions based on issues identified during a review of the literature on teaching online. For example, in designing the instrument the following question was formulated from reviewing the literature:

> *What kind of learning and by extension what type of interaction would you like to
> see in your tutorials (Soo and Bong, 1998)?*

The question was re-structured as follows in the interview schedule to read as follows:

> *Discuss what type of learning behaviour or activities she would like to witness
> during the tutorials.*

This question was designed to engage tutors in a discussion around the types of behaviours they
expected from students during the tutorials. Thus, the interviews revolved around the pedagogical
approaches tutors employed when using the SCMC software.

Table 2: Interview Schedule

Tutor Name	Data Collected	Comment
Tutor 1 (T1)	Pre- and post- interview data	Tutorial 1 = 90 minutes
Tutor 2 (T2)	Pre- and post- interview data	Tutorial 1 = 60 minutes
Tutor 3 (T3)	Pre- and post- interview data	Tutorial 1 = 60 minutes
Tutor 4 (T4)	Pre- and post- interview data	Tutorial 1 = 60 minutes
Tutor 5 (T5)	1 interview	Tutorial 1 = 60 minutes
Tutor 6 (T6)	1 interview	Tutorial 1 = 60 minutes
Tutor 7 (T7)	1 interview	Tutorial 1 = 60 minutes

Seven tutors were interviewed and of these four were interviewed on two occasions, once at the outset
of teaching their module and the second time once the module had concluded. Three other tutors
were also interviewed but this only occurred once, as they were not tutoring at the time the study was
conducted. Thus, there were a total of eleven interviews recorded with seven tutors. In this paper, I
have focused on the interview data of two tutors, Tutor 1 and Tutor 2, to illustrate the issues that they
encountered.

2.2 TPACK Analysis

Each interview was transcribed and was subsequently analysed using a set of pre-defined TPACK
descriptors (Appendix 2) using NVivo 9. The descriptors were applied to chunks of text that
discussed TPACK constructs and they were applied in a holistic rather than a narrow way. The
interviews were imported into Nvivo and then coded using the TPACK codes, which were also

preloaded. For instance, the following chunk of text was coded Technological Pedagogical Knowledge (TPK) because the tutor spoke about generating a good debate using AT&T Connect.

> *I got some reasonable interaction, I got different people to raise their hand and give their opinion on stuff ... The other would be if we had a good debate about their particular research projects*

In predefining this code, I had stated that TPK would apply to the following types of statements:

> *I will be looking for statements where tutors discuss general pedagogical activities that a tutor can or does engage in using digital technologies. I will be looking for statements that apply generally to learning and not specifically to their module content.*

Thus, in the example above the tutor discussed the strategies she or he used to interact with students and therefore it was coded as TPK. It proved difficult on occasion to differentiate between TPK and TPACK and this appears to support the concerns of others (Cox and Graham, 2009 and Graham, 2011) as to the validity and reliability of the individual constructs. However, the TPACK framework did allow me to code the discussions that took place with the tutors using the descriptors developed in Appendix 2.

In addition to conducting semi-structured interviews with tutors I also analysed the level of interaction that took place during the tutorials using the Flanders Interaction Analysis Framework (Flanders, 1970) and this captured how much talking tutors and students engaged in. This data is referred to as FIAC data in the results section and was used to recreate the 'hot action' that took place during the tutorials but is not the focus of this paper (for more see Hallissy, 2014).

3. Results

Tutors reported that they had found it challenging to mediate a live tutorial and they reported often feeling tired and drained after the event. I will illustrate some the main themes that emerged during the interviews by sharing some of the views of two tutors, T1 and T2.

3.1 Challenges Encountered

Tutor 1, T1, encountered several challenges in conducting his online tutorials and chief among these was the engagement of learners. His tutorials were dominated by tutor talk and he believed the lesson content was challenging and that this contributed to the low level of interaction.

> *I suppose the big challenge and still the big challenge today is how to get them engaged online, how to get them talking? I think a lot of the students were a little uncomfortable with the subject matter because it is a tricky concept ...*

He declared that he failed to engender any "healthy" discussion around the topics covered in the lessons. He wondered if this was down to his skill as a teacher because despite his best efforts there was little or no deliberation.

> *Maybe it is to do with the skill of the tutor ... to foster an online debate ... we have not fostered enough healthy debate or even heated discussion around some of the research topics we could have done.*

He spoke at length of the challenge to engage students and even commented "some students don't say anything at all". This lack of interaction often led to periods of silence as captured in the FIAC analysis, though he stated he had become comfortable with this over time.

> *Doing the live tutorials ... I certainly felt more comfortable this time around. And more comfortable with the silence, if you get the little bit of silence and being able to take it in a different direction and go with the flow*

T1 stated that he structured the tutorial in fifteen-minute segments so as to engage his students. In addition, he also noted that the natural tendency for the tutor is to talk and for students to sit back and listen.

> *because the tendency is actually to ... keep talking, particularly if they want to listen because they will consume this stuff because you know what, it is easy and it gets them off the hook.*

Tutor 2, T2, did not have the same challenges in relation to student participation, though an she reported being absolutely terrified when she went online initially.

> *Last year was my first year so I was absolutely terrified – it is just this whole new thing, putting on headphones and saying good evening and hoping the laptop won't explode in front of you.*

3.2 Instructional Strategies

Although he stated that the online tutorial was not a lecture, his FIAC analysis indicated that tutor-talk dominated these events and he struggled to give students voice.

> *Because the other thing to remember is, and this is the hard bit as well, this is not a lecture right [small laugh] it is a tutorial so it's about them getting a handle on stuff not you reiterating the hour lecture that you have already recorded and given.*

He referred to issues, such as time and structure, regularly during the interviews. He was conscious of the medium, of being "on air", and of how he could engage learners during his fifteen minute blocks. T1 viewed his PowerPoint slides as essential in guiding the flow of his tutorials and he stated you can't just "rock up to an online tutorial". In his view, he needed to ensure he had sufficient material to cover the allocated time, as the alternative was "too stressful".

> *The other reason for structure or scaffolding is that you can't ad lib this stuff. You can't rock up to an online tutorial having done zero preparation you might get away with that in a f2f class. You could put up a few questions on the board ... I don't think you can do it with this stuff, you need a signpost for yourself, it is just too hard, it is too stressful is my honest view of that*

Tutor 2, T2, in contrast had a different experience in relation to the online tutorials and she appeared to bring her beliefs and experience from face-to-face teaching to her online tutorials.

> *went into building an interactive classroom, like I would do in a traditional classroom and I was very surprised that [it] worked so well .... build up that sense of team with them because it gives a kind of a warmth and there is this saying that "Real learning comes from the heart not from the head".*

Furthermore, she stressed the importance of structure within her tutorials.

> *I suppose you have to plan, you have to prepare, you have to know generally what you are doing and I feel I would have done that, ... there is no way you would face any group like that without knowing what you were about*

She also promoted student voice, as opposed to tutor voice as she was keen for all students to contribute and teach during the tutorials.

> *I don't like the sound of my own voice too much [nervous laughter] so I love to give voice to others and to build up the team and that everybody in the classroom is teaching, like using all the resources in the classroom, that it is not just one teacher but everybody has something to teach and to share and to try and draw that out.*

Rather than lecturing she utilised questioning strategies to build a sense of community and to give students voice.

> *I do it by question rather than by expanding on the lecture and I ask them, I tell them, that I am always teaching them listening skills to model for the classroom. I try to model for the classroom all the time. So because of that I would say "ask your partner rather than tell your partner", so they would ask their partner [about] their ideas.*

3.4 Sharing and Developing Professional Practice Knowledge

T1 was of the view that tutors had to experience online tutoring themselves and no amount of preparation could prepare them for the event. Thus experiential learning was essential in his view to developing one's practice.

> *... You actually have to go through it and learn it and do it and make a mess of some of the stuff*

Furthermore, T1 suggested that the College could collate examples of tutor practice and allow tutors to review these with a view to improving their own practice. This archive could then be made available to tutors. It could consist of:

> *examples of good [tutoring from] across the last number of years some really good, bad and ugly [examples]. And it probably would be no harm to sit in and listen to a very good one and maybe you could model your own stuff on it ... Just so you get a sense of what it is like, what worked and what strategies the tutor was employing to engage with the students*

He would welcome a shared pedagogical approach where all tutors agreed to a particular approach where there were shared expectations and ground-rules.

> *I do think a standard approach that we all try and use as tutors to put some consistency and standardisation would be very beneficial or at a very least we should sit down and have a discussion about it. I would be very interested to hear how other tutors actually approach this stuff as well, it can only make us better tutors ... because there is a different skill as a tutor online as compared to f2f.*

T2 also echoed this idea of tutors sharing their knowledge and sharing what worked and didn't work for them with colleagues.

> *I think community is huge, learning from each other. And so that kind of sharing with other tutors, I would say sitting down and creating a shared meaning and a shared vision and a shared structure and not quite shared strategies for the tutorials.*

5. Discussion

This study suggests that there are several implications for institutions and for teaching professionals in relation to how they design and mediate live online tutorials. It appears that it is not enough to just provide staff with 'training' on how to use the SCMC technology (TK), even though such an approach appears to be widespread. Teachers need to be provided with opportunities to engage in more professional learning activities over time where they learn from colleagues and share their

experiences regularly. In this study the semi-structured interview schedule (Appendix 1) afforded tutors the chance to reflect on their practice and to engage in such professional conversations with their colleagues. The faculty found such professional conversations extremely beneficial in articulating the 'hot action' that occurred during their tutorials.

Tutors found that such discussions afforded them a space where they could talk about what worked and what didn't work for them during the online tutorials. All tutors found the experience quite daunting and challenging at first and some suggested that tutors should have an opportunity to co-teach with a colleague, to have "flying hours" in advance of teaching on their own. In particular, they noted the challenge of students remaining silent because, as Barrows stated they

> *learned a long time ago that it is best to stay silent if he does not know the answer, or is unsure of it, for he knows that an admission of not knowing would be used as evidence of inadequate study or lack of intelligence.*

(Barrows, 1992; p. 22)

Thus, the challenge of students remaining silent and declaring that their "microphone was not working" was a common one that tutors reported. Tutors found that strategies such as "clicking in on students", whereby they clicked on a student's name and asked them to contribute were relatively ineffective. Instead, strategies such as putting students in teams and in asking them questions were much more successful in enhancing the level of interaction that took place during these live events.

Tutors agreed that there was a need for a shared vision for such events so that all tutors and students were clear in terms of what was expected during tutorials. There was a need for clear ground-rules in terms of what goes on around here. Tutors felt that previously there was ambiguity and a wide variance in terms of the experiences tutors and students had during these events. They were of the view that the College should develop a signature pedagogy for the tutorials so that people knew what was expected of them during tutorials. While recognizing that no two tutorials would be the same there was a consensus on the need for a shared vision for such events.

Shulman (2005; p. 52) defined signature pedagogies as follows:

> *They are the forms of instruction that leap to mind when we first think about the preparation of members of particular professions – for example in law, the quasi-Socratic interactions so vividly portrayed in Paper Chase.*

Thus, this study found that institutions should have clear ground-rules for live online tutorials so that students are engaged and are ready and on their toes to contribute (ibid) when called upon.

6. Conclusion

This study has found that the espoused theory of online tutorials, that of a dominant social constructivist approach, is not always present in such events. This study found that all too often live tutorials are dominated by teacher talk and by students remaining passive with limited opportunities for interaction.

Therefore, there is a need for institutions to review what is going on in such spaces and to speak to faculty and students to hear what is going on and to work with them to design more interactive learning sessions where critical discussion is to fore. All too often institutions overly focus on the SCMC technological tools that they procure to facilitate the 'delivery' of online tutorials but there is also a need to focus on how these tools are used. It is the people, the staff and the students, who will inevitably dictate the type and quality of interaction that takes place. Therefore. institutions should devote time and resources to ensuring staff have tools to reflect on their practice and to share this with colleagues in a safe and non-threatening way. By capturing and sharing their professional practice

they will be able to share their 'tacit' knowledge in relation to what works and what doesn't work with their students, which ultimately should lead to enhanced student performance. By capturing professional practice knowledge there is an opportunity to enhance the learner experience during live online events and to further develop our understanding of these events.

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