Capturing and sharing professional practice on mediating 'live' online tutorial sessions - A case-study from Hibernia College

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Abstract

This case-study is set within the context of a new online Masters Programme for teachers within Hibernia College, the Masters of Arts in Teaching and Learning (MATL). It explores how tutors and students interact using synchronous computer mediated conferencing (SCMC) technologies during live tutorial sessions. The study found that students and tutors did not have an agreed set of ground rules for these online events and thus there was a need for a signature pedagogy to clarify this. It was observed, using the Flanders Interaction Analysis Categories (FIAC) and tutor interviews, that the level of interaction during these tutorials was predominantly teacher led with little evidence of student voice. The study developed a toolkit to allow tutors engage in professional practice discussions. The toolkit is designed to enable tutors to reflect on their tutorial practice. Using a cyclical process tutors can capture, codify and analyse their existing knowledge with a view to developing more student-centred tutorials. This paper focuses on the use of FIAC to code and analyse an online live tutorial and how this information can then be used to inform a tutor's professional development practice.

Introduction

There is a growing belief that technology can transform higher education (HE) by reducing costs and catering for larger student numbers (Bowen, 2013). The rise of Massive Open Online Courses (MOOCs) has helped fuel this discussion and many universities are now considering the role of technology in teaching, learning and assessment.

The internet plays a key role in helping to redefine teaching, learning and assessment in HE and in providing new ways for teachers to interact with their learners. One technology that is beginning to attract quite a lot of attention is synchronous computer mediated conferencing (SCMC). The range of SCMC technologies has grown in recent years and they have their origins in computer-mediated communication (CMC) technologies that facilitate "communication that takes place between human beings via the instrumentality of computers" (Herring, 1996, p. 1 in Rosell-Aguillar, 2007, p. 81). Such communication can be asynchronous (e.g. via email, message boards etc.) or synchronous. When used initially, synchronous CMC was limited primarily to text chat but it now includes both audio and video conferencing. Today there is a growing list of SCMC technologies, such as Adobe Connect, Blackboard Collaborate, Elluminate and Lync, which allow teachers and learners to interact in 'virtual' classrooms. Typically these interactions are scheduled in advance so that students and teachers can attend at the same time (Hyder et al., 2007).

In the context of transforming or reinventing higher education there is now a growing hype around the use of technology (Kirkwood and Price, 2014 and Bayne, 2015) and in particular SCMC. Some researchers believe that SCMC technologies contain the "natural conditions for interaction, especially between the student and teacher and often among students" (Bernard, 2009, p. 1247) while others claim that "while certainly being a great deal of fun, [the SCMC

technology] does not lend itself to a deep, complex discussion because it is too hectic" (Bender, 2012, p. 177). Though there has been significant research on the use of asynchronous or CMC technologies (Gunawardena et al., 1997; Vrasidas, and McIsaac, 1999; Heejung et al., 2009; Abrami et al., 2011; Bain, 2011; Blanchette, 2011 and Zheng and Spires, 2011) there has been limited research on the use of SCMC technologies in higher education settings (Buckingham Shum et al., 2001; Price, Richardson and Jelfs, 2007; and Bender, 2012). It is worth remembering that "as with many digital technologies this type of "remote meeting" environment was developed for business, not education" (Laurillard, 2012; p. 156) and there is a need to explore what is going on in these spaces and to better understand the quality of interaction that is taking place. Using such technologies should support learning through discussion not learning through acquisition where tutors and learners interacted and constructed knowledge together (Ibid).

This study explores the level of interaction that took place between tutors and students during a series of live online tutorial events. The study is focused on capturing and analyzing tutor practice in a new online Masters programme for teachers, the Masters of Arts in Teaching and Learning (MATL), which began in late 2009.

Study Setting
The MATL was a modular programme with each module consisting of 10 pre-recorded lessons. It was entirely offered online and the students were all practicing teachers who accessed the programme from home. Over the course of a module, a lesson was released weekly and students had access to it via the Hibernia College virtual learning environment (VLE). Each lesson consisted of three core components: the tutor created lesson content; an asynchronous forum; and a live tutorial, as depicted in Figure 1 below.

The tutors worked with a team of instructional designers to create the pre-recorded lesson content and it was the central component of each lesson. Secondly, each lesson was associated with an online forum where students posted their thoughts and views on questions and issues the tutor had initiated and thirdly students were encouraged to attend a weekly online synchronous tutorial. The tutorial was scheduled in the student's calendar. These 'live' events brought the tutor and his/her students together online for approximately 60 minutes each week. Attendance at such events was not mandatory and they were described as events where students and tutors would have an opportunity to '*unpack*' the pre-recorded lesson content. The purpose of these events was to provide students with an opportunity to interrogate the pre-recorded lesson content and engage in discussion with the tutor and with each other.

Figure 1, Components of MATL Lesson

When I was appointed MATL Course Director in 2010, I surveyed approximately 30 students on their perceived expectations and experiences of the live online tutorial component of the programme. I noted a lack of student interaction in the tutorials and that the tutor role was often too dominant in such events. The survey revealed that students appeared to have mixed views on the purpose of the events, as captured in Table 1.

Table 1. Purpose of the MATL Online Tutorial

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%

Though the majority of students viewed the tutorials as events where they could raise questions and engage in revision activities, only a minority (20 and 21%) viewed them as spaces for collaborative engagement and knowledge-sharing. These responses seemed at odds with much of the literature associated with teaching online where the use of social-constructivist teaching approaches were prominent (Rovai, 2004; Pallof and Pratt, 2007 and 2011; Stavredes, 2011; Laurillard, 2012).

Hibernia College hosted their online tutorials on the Interwise platform (ATT, 2015) and tutors could speak to students via their computer using either a microphone or text, while students could only communicate with one another using text. The breakout room function, where students typically speak to each other using their microphones, had not been activated. Thus student to student discussion was text.

Methodology

In order to capture the interactions that took place during the tutorials a mixed methods case-study approach was taken. The tutor-student interactions were recorded using the Flanders Interaction Analysis Categories (FIAC) and the interviews were informed by the Technological Pedagogical and Content Knowledge framework (TPACK). In addition to coding the interactions, I also conducted semi-structured interviews with the tutors to discuss what took place during the coded tutorials. This paper will just focus on the FIAC element of the study.

FIAC

The FIAC is a structured observation instrument (Phellas, Blocher and Seale, 2012) that has a long history of use in the field of education. It was designed initially to enable an observer to sit in the corner of a classroom and code interactions as they occurred between teacher and student. However in this study it was used to code the interactions that took place in an online classroom.

Flanders and his colleagues viewed teaching as a series of linked events and designed the system to enhance the study of teaching behaviour. He viewed the system in "a practical engineering sense" (Flanders, 1970; p.3) that could be used to assist teachers analyse their own teaching "by using the fewest number of concepts that the task requires". Flanders believed that the system had to be practical and simple to use. This is so teachers could apply it in their own classrooms to get a better understanding of how they interacted with their students. He viewed the FIAC primarily as a tool to improve teaching behaviour and believed that one day such systems might be the foundation of teacher preparation programmes. However, there is an ontological assumption here that assumes teaching is a nomothetic activity that is law abiding and predictable (Jones and Sherman, 1980).

The FIAC consists of:
- 10 categories and is built around two main categories of talk - teacher and pupil.

- Teacher talk has seven categories and can be further divided in two: direct and indirect teacher talk.
- While pupil talk has only two categories and
- There is one category for silence or confusion.

Indirect teacher talk is sub-divided into the following categories:
(Code 1) **Accepting feeling**
(Code 2) **Praising or encouraging**
(Code 3) **Accepting ideas and**
(Code 4) **Asking questions**.
Direct talk is divided into three categories:
(Code 5) **Lecturing**
(Code 6) **Giving directions and**
(Code 7) **Criticising or justifying authority**.
Pupil talk is divided into two **categories**:
(Code 8) **Responding to teacher and**
(Code 9) **Initiatory talk**.
(Code 10) is usually referred to as **Silence** or **Confusion**.

In sum seven of the 10 categories apply to the teacher and only two to the student. Thus the division of categories appears to indicate that FIAC has been constructed from the perspective of the teacher and not the student. It should also be noted that Flanders viewed interaction analysis as "a tool of action" that allowed teachers to continue to develop their knowledge about teaching, something that he saw as having no "particular stopping point" (Flanders, 1970, p. 20). Thus the tool was designed to assist teachers to improve their existing professional practice, not just record and make judgements on their practice.

Results

The tutorials of seven tutors were observed over a six-month period. In the case of four tutors two tutorials were observed, their first and their last, and in the case of the remaining three one tutorial was observed, giving a total of 11 tutorials. The data gathered from the three tutors was gathered in advance of the study and was used to pilot the approach and the research instruments.

Table 2 presents the FIAC analysis from one tutorial that was mediated by an experienced teacher, (T2), who had worked in face-to-face settings for many years but was a novice online.

There is a good spread of codes across all 10 FIAC categories and it shows that 14% of all interactions were coded as *Lecturing* (Code 5) while 18% of the time was coded as *Giving Directions* (Code 6) and 8% as *Asking Questions* (Code 4). There was also evidence that T2 actively praised students, *Praises or encourages* 5% (Code 2), and accepted their ideas, *Accepts or uses ideas of student* 6% (Code 3).

Conversely *Student-talk-response* (Code 8) accounted for 47% of the all interactions with *Silence or Confusion* (Code 10) only accounting for 3%.

Though 14% of the time was coded as *Lecturing* it was found that much of this talk pertained to administrative matters, particularly in establishing the ground rules for the tutorials. T2 made limited use of pre-submitted PowerPoint slides and instead shared slides and Word documents via the Application Sharing feature within the SCMC software.

Table 2. T2 FIAC Tally Marks Tutorial 1

Category		Total Tallies	Percent
	1		
	2	53	5
	3	63	6
Teacher	4	90	8
	5	164	14
	6	205	18
	7		
Students	8	539	47
	9		
Silence	10	31	3
Total Number of codes			*1,114*

T2's tutorials were carefully designed in advance and there was evidence that she prepared her questions in advance and on one occasion stated, *"So the question I would like you to discuss with your partner ..."*. All student activities were timed and she monitored these closely and asked, *"how is the timing going?"* and on another occasion *"I think I over shot the time"*. T2 brought her knowledge of co-operative learning in face-to-face settings online and a pattern emerged in terms of how she interacted with students. She organised the students into Learning Teams and she issued clear instructions on how they were to work together and how they were to report back to the main group. For example the tutor would ask for a response *(Code 4)*, a student would respond *(Code 8),* then T2 would praise their contribution *(Code 2)* and then she would affirm and build on their response *(Code 3).* These interactions typically lasted two to three minutes and were very focused. She praised their contributions and made comments such as, *"I love your questions"* and *"these are such high quality answers"*.

T2's tutorials were designed using a student-centred philosophy and she placed a strong emphasis on student voice as opposed to teacher voice. Notably, she asked the students how they found conversing via text, as opposed to using voice, and only one student stated it was strange and a bit awkward. Despite the challenge presented by the technology to converse naturally, as in a face-to-face conversation, she worked with the technology, as best she could.

Similar data was generated for the other tutorials and it shows that there was variance among tutors across all 10 categories as indicated in Table 3. In

particular the amount of lecturing or teacher-directed talk *(Code 5)* varied quite considerably in certain cases. Furthermore, it shows that the level of student-talk (*Codes 8 and 9*), varied considerably and that there was only one example of student-initiated talk (Code 9).

Table 3. FIAC Codes across the 7 Tutors

Category	Code	Tutor 1		Tutor 2		Tutor 3		Tutor 4		Tutor 5	Tutor 6	Tutor 7
		T1	T10	T1	T10	T1	T10	T1	T10	T1	T1	T1
	1											
	2	0	0	5	2	1	3	1	0	1	4	3
	3	21	28	6	7	3	0	1	4	16	5	9
Teacher	**4**	4	2	8	6	11	17	2	4	4	8	10
	5	32	46	14	18	22	26	60	67	62	14	38
	6	7	2	18	17	3	1	4	3	2	18	0
	7											
Pupils	**8**	30	9	47	25	44	43	10	20	12	48	34
	9	0	0	0	20	0	0	0	0	0	0	0
Silence	**10**	6	14	3	4	16	9	22	1	4	3	6

Discussion

This study found that the FIAC framework worked well in capturing the types of interaction that occurred during the majority of the observed tutorials. It highlighted that these events were dominated by teacher-directed teaching strategies, such as lecturing, and that there was limited evidence of students and tutors co-constructing knowledge. The FIAC also worked well as a tool for capturing the action of the tutorials and in facilitating tutor reflection. The FIAC analysis was also used to review the level and nature of the interaction that took place during these events. However, limitations were found in the FIAC as it did not capture the various types of tutor talk that was observed. For example in the case of T2, 14% of all the interactions were coded as Lecturing (*Code 5*) but on further analysis much of the teacher talk was in giving directions. This suggests the need to adapt the FIAC further so that it can more accurately capture the nature of the observed interactions. The SCMC software used during this study did not facilitate student-to-student direct discussion via break-out rooms so it is undetermined whether the FIAC framework could have captured such interactions. Overall, it appears that FIAC worked well because the interactions were mostly tutor-led and this mapped well with the origins of the framework.

Despite its shortcomings, FIAC worked well in capturing and coding tutor practice and it contributed to professional practice discussions among tutors as Flanders had anticipated.

> This systematic approach [interaction analysis] to self-development is more likely to flourish within the mutual support of a partnership or small action team with work scheduled throughout the year on a regular basis.
>
> (Flanders, 1970; p. 10)

It appears that by using the FIAC, as is or with some further additions, will allow tutors to engage in a process of self-development where they can review their practice in a structured way. When the FIAC is located with a process of enhancing professional practice (see Figure 3) it can act as a "tool to improve teaching" as Flanders had intended.

In most institutions online tutorials are recorded, which allows tutors to listen back and reflect on what took place, but all too often this process is unstructured. Using the FIAC tutors can capture and code their practice in a structured way for themselves or for others. In this way the data captured in Table 2, can be used as an instrument to inform professional conversations with colleagues. The purpose of such discussions may be to identify further professional development opportunities for the tutor so they can improve their teaching practices. In this way they can capture and share their professional practice and so improve the collective understanding of what works and what doesn't work within online tutorials for the entire teaching profession.
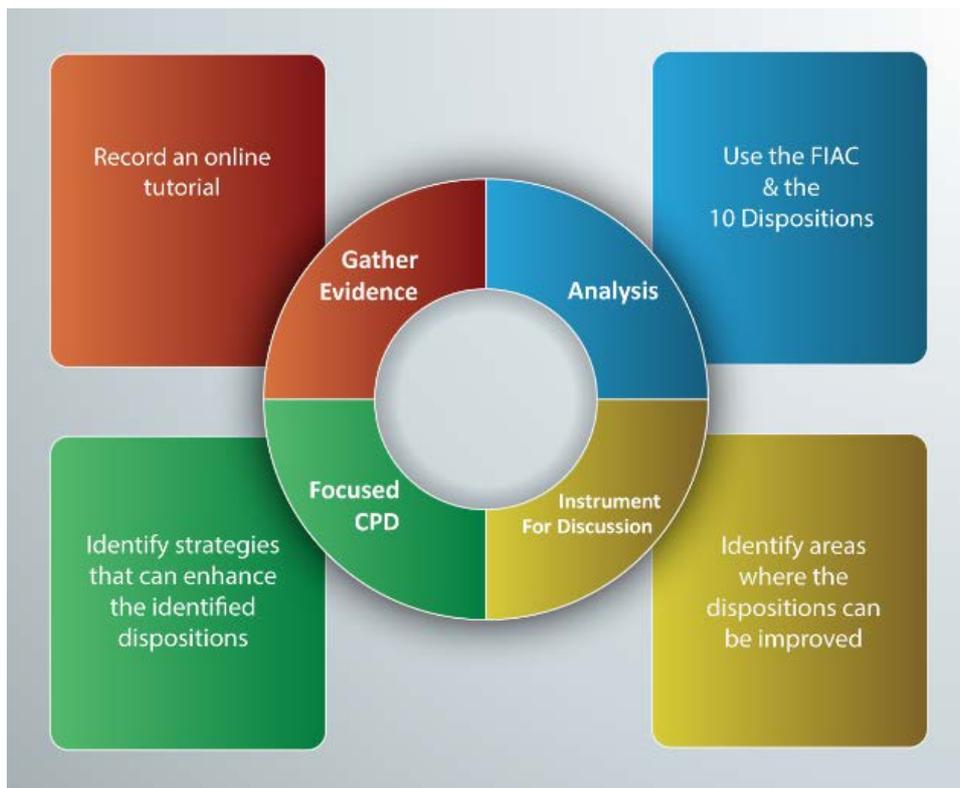

Figure 2 Professional Practice Process

Conclusion

To conclude there is a need to engage in further research around how SCMC technologies can be used effectively within a range of higher education settings. There is a necessity for tutors to capture and reflect on their

teaching practice to critically reflect on their own professional practice – what am I doing and is it working for my students? In this case FIAC, worked well but the study has shown that it requires additional development work to capture other types of talk that may occur during live online discussions.

By capturing and sharing professional practice among those who use SCMC in higher education, there is an opportunity to add to our collective understanding of how best to structure live tutorials. The publication of such knowledge will ultimately enable all teachers to use SCMC technologies more effectively and thus impact positively on student learning.

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