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ONLINE LANGUAGE TEACHER SKILLS AND ROLES IN AN AUDIO- GRAPHIC CONFERENCING CLASSROOM

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Thesis for Master in Research

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Abstract

Many institutions and individual teachers are moving from traditional face-to-face classrooms to online teaching. Traditional classroom language teachers need to understand why online teaching is different from classroom teaching before they acquire new skills and explore new pedagogies for online teaching. This study aims to identify the differences between teaching online and in face-to-face classrooms, and explore what new skills and roles beginner online language teachers need to develop in order to become successful language teachers in online classrooms. Audio-graphic conferencing classrooms are usually a basic form of online teaching and the starting point for many face-to-face teachers to move to online teaching. This study collects data from an OU-Live EAP tutorial in the Open University UK. Four critical incidents were selected from an online tutorial and analysed through multimodal discourse analysis based on the Model of Instructor Roles by Berge (2005) and the Skills Pyramid by Hampel and Stickler (2005). A video-stimulated recall interview was conducted to elicit the online tutor's rationale for his actions in the four critical incidents. The major findings of the study include: (a) three major differences between teaching online and in face-to-face classrooms, including technical differences, lack of non-verbal cues, and multimodality in online learning environments; (b) two suggestions for the Skills Pyramid on 'dealing with the possibilities and constraints of the system' and 'online socialization skill' (Hampel and Stickler, 2005); and (c) two suggestions for the Model of Instructor Roles the on pedagogical role and the technical role of online language teachers (Berge, 1995). Recommendations for online teacher

training and future research topics are presented in the end.

Key words: online teacher skills; online teacher roles, audio-graphic conferencing classroom; online learning environments; successful online language teachers.

Chapter 1: Introduction

The rapid development of educational technologies has transformed language learning and teaching over the past decade. There are three main features for research studies in online language teaching: a wide variety of technological tools, a pedagogical focus on interaction, and a shared goal of informing online language teacher training and teacher development.

In terms of technology, Stickler and Hampel (2015) summarise that there are a wide variety of online spaces that have a potential for language learning. These online spaces are ‘multimodal, multicultural and multilingual’ (p.62) which could provide a number of language learning possibilities, from pronunciation practising tools to synchronous audio/video graphic conferencing classrooms, from blogs and wikis to virtual worlds such as second life. As technologies offer an almost unmanageable choice (Stockwell, 2012), teachers and researchers have been exploring how to transform certain online spaces to facilitate online language teaching and learning.

As for pedagogy, there has been a clear theoretical trend toward socio-constructivism in online language learning and teaching (Felix, 2002; Johnson, 2006; Wang, 2014), which advocates communicative language teaching approach and emphasises interaction. As Ellis (2000) stresses, ‘learning arises not through interaction but in interaction’ (p. 209). Popular research themes include telecollaboration, intercultural learning, and establishing online language learning

communities and so on. In the research field of synchronous audio-graphic conferencing classrooms, researchers have explored strategies and designed tasks to involve students in online interaction (Hampel and Pleines, 2013; Hampel and Stickler, 2012; Rosell-Aguilar, 2005; Hauck & Youngs, 2008).

Finally, many studies in the field of online language teaching share the same goal of informing teacher training programmes and eventually improving online teaching practice. Ten years ago, there has been a heated discussion around whether it is necessary for language teachers to develop new skills for online teaching. Today, 'this is no longer disputed', as Stickler and Hampel (2015, p.63) comment. There have been a huge amount of literature around developing online teaching skills/competences and investigating online tutor roles (Compton, 2009; Levy et al, 2009; Gallardo et al, 2011; Baran et al, 2011). A number of theoretical frameworks have been introduced, for example, Hampel and Stickler's (2005) Skills Pyramid and Berge's (1995) Model for Instructor Roles in online educational settings, which will be reviewed in Chapter 2. The findings of these studies and frameworks have been used to inform language teacher training programmes (Hampel & Stickler, 2005; Hampel, 2009).

Despite the large amount of literature on various technologies and advanced pedagogies, many teachers still adapt new tools to their traditional teaching style (Schmid & Whyte, 2012) rather than acquiring new skills to use the pedagogical affordances of the tools. One possible reason is that many face-to-face classroom language teachers still have not fully understood the significant differences between online teaching and classroom teaching. To persuade these traditional

language teachers to acquire new online teaching skills, it is important for them to first know the reasons why online teaching requires different skills and roles from a traditional language classroom.

Moreover, in many developing countries, for example China, where online language teaching and learning has just started to develop since 2014, there are a huge amount of language teachers who are planning to move to online teaching. In order for them not to use technology in the 'old' way, they also need to first understand why teaching online is different from teaching in face-to-face classrooms and then learn what skills are needed to become a competent online language teacher.

The above two paragraphs have demonstrated the training needs for two groups of teachers, those who use technologies in traditional ways and those who used to teach in traditional face-to-face classrooms but plan to teach language online in the near future. We could call them 'beginner online language teachers'. They might be very experienced language teachers in traditional classrooms or they might have taught language with ICT tools, but they have not developed specific skills and have not understood pedagogies for online teaching. For these teachers, before exploring a variety of online learning tools and implementing communicative teaching approach, they need to first understand the differences and similarities between online teaching and face-to-face teaching, and then gain an overview of what an online classroom looks like, and develop a basic understanding about what additional skills and roles they need to acquire.

Since audio-graphic conferencing classrooms are usually a basic form of online teaching and the starting point for many face-to-face teachers to move to online teaching, this study chooses to use an audio-graphic conferencing online classroom tutorial as an example to demonstrate the following three important issues for beginner online language teachers: the *why*, the *what* and the *how*. First of all, the *why*: why teaching online is different from teaching in face-to-face classrooms? This study compares four critical incidents in an online tutorial with similar situations in face-to-face classroom and explores the fundamental differences between them. Secondly, the *what*: what specific skills are needed for online language teaching? Through multimodal discourse analysis, this study analyses the specific skills an online tutor demonstrated in four critical incidents based on the Skills Pyramid developed by Hampel and Stickler (2005). Finally, the *how*: how can they perform their online teacher roles properly? After analysing an online tutor's classroom performances, this study offer suggestions on online teacher development for beginner online language teachers.

To answer these questions and achieve these goals mentioned above, lessons need to be learned from the more experienced online teaching institutions, such as the Open University UK, which has developed a well-established system for online language teaching and online language teacher training. This study collects data from an EAP module OU Live L185-13J, including online tutorial recordings and stimulated recall interviews with the online teacher, and explores online teacher roles and skills through multimodal discourse analysis of some critical incidents.

The above chapter has introduced the aims of this study. It is followed by a review

of literature on online teacher roles and skills/competencies which would offer theoretical frameworks for data analysis. The Methodology chapter (Chapter 3) will describe the rationale and methods for data collection and data analysis. And Chapter 4 will present the actual data collection process and the multimodal discourse analysis of four critical incidents in detail. Then, in Chapter 5, major findings of this study will be reported and connected to relevant literature. Finally, the conclusion chapter will offer a summary of the main findings, a reflection of the strengths and limitations of the current study and some suggestions on related research topics for future studies.

Chapter 2: Literature Review

2.1 Overview

'The use of digital technologies has transformed language learning and teaching' (Stickler and Hampel, 2015, p. 63). With easier access to a wide range of learning resources made possible by the internet, teachers' roles shift from knowledge experts and the major information source to facilitators or mentors, whose primary task is to provide leadership and wisdom in guiding student learning (Berge, 2008). A huge amount of research has been done across different subjects and in different educational and cultural backgrounds to explore teachers' new roles and skills in various online learning contexts (see Compton, 2009; Levy et al, 2009; Gallardo et al, 2011; Baran et al, 2011).

In this review, I will first clarify different uses of terminology and the relationships between online teacher roles, skills, competencies and performance. Then, I will review theories and studies on online tutor roles in broad terms before focusing on specific skills for online language teachers. Finally, I will propose an integrated theoretical framework for the current research project and raise my research questions.

It is not unusual that several terms are used by different researchers to refer to similar research subjects. In this case, for example, online teachers, online tutors/mentors, distance teachers, online instructors, e-moderators, digital professors can be considered as synonyms. Each selected term and combination

may have some particular emphasis, but this is not the focus of the current study. Therefore, to respect different researchers' perspectives, I decided to use their original terminologies in this literature review. At moments when I need a neutral term to refer to the above synonyms in general, I will use the term 'online teacher'.

2.2 Online Teacher Roles and Skills

2.2.1 A Framework: Instructor's Roles Model

Twenty years ago, the American scholar Zane L. Berge (1995) summarized 12 functions of instructors from numerous studies conducted in both face-to-face classrooms and 'Computer Conferencing (CC)' environments, based on which he devised the Model of Instructor's Roles (Figure 1). He classified instructor's roles into four categories: pedagogical, managerial, social and technical. As can be seen from Figure 1, these four roles are not exclusive but overlapping, indicating that an instructor may play any combination of these four roles at the same time. Furthermore, he added that these four roles are rarely carried out by one person only, although the instructor should be the central one to coordinate other team members to ensure that all four roles are successfully carried out (Berge, 1995; see also Berge, 2008).

Berge (2008) further illustrated the four roles in online educational environments by specifying the competencies and skills needed for each role. First and foremost, to be pedagogically competent, online instructors should act as educational facilitators who model effective online learning and guide students' learning by 'using questions and probes to elicit student responses, keeping discussions on

track, contributing to special knowledge, weaving together various discussion threads and course components' (Rohfeld & Hiemstra, 1995, p.91; as cited in Berge, 2008). To perform the social role, it is important that online instructors create a friendly social environment to encourage learning and promote human relationships, develop harmony, cohesiveness and collective identity. In explaining the managerial role, Berge (2008) highlights the management of interactions with strong leadership and direction, although he also mentions traditional duties such as setting the agenda for the course. Finally, online instructors or other supporting staff 'must make learners as comfortable with technology as possible', in an ideal case, the technology is so transparent and user-friendly to learners that they could fully concentrate on the learning.

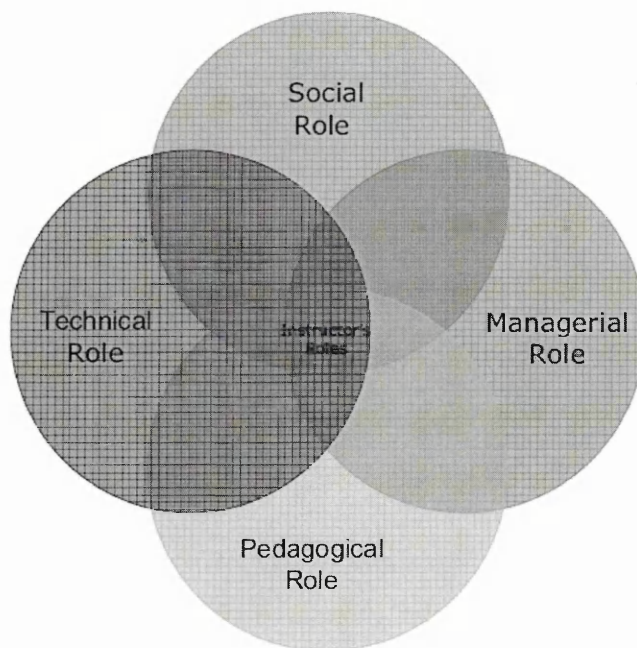


Figure 1: Model of Instructor's Roles (Berge, 1995)

Berge (1995) was one of the earliest researchers who drew attention to instructor roles and stressed the change of instructor roles from traditional classrooms to

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online computer conferencing environments. His model has offered an important theoretical framework for research in this area because it highlights the multidimensional nature of online instructor roles. However, there are some limitations in this model. First, he seemed to have consciously put the Instructor's roles in the very middle part where four circles overlap (see Figure 1). This may lead to a misinterpretation that online instructors should always perform the four roles at the same time, which is not necessarily true in real online teaching practice. Moreover, although he summarized the four roles and offered some examples within each role, he did not distinguish the notions of roles, competencies/skills and performance. Finally, some instructor roles or competencies concerning motivation (e.g. Xiao, 2012) and evaluation (e.g. Compton, 2009) were not considered in this model. After all, Berge's (1995) model is a good starting point but it needs to be developed, examined, reflected on, and reformulated by researchers as both technology and online learning theories evolve.

2.2.2 An Investigation Based on Berge's Framework

Building on Berge's (1995) model of online instructor roles, researchers from Indiana University (Liu, et al., 2005) conducted a mixed method study to explore instructors' and students' perceptions regarding the four roles in an asynchronous online MBA programme. 28 individual interviews were conducted with online instructors to elicit their understandings of the four roles. While their findings revealed a strong emphasis on the pedagogical role, the social role was not paid sufficient attention by many online instructors. They also carried out a 65-item survey questionnaire survey containing 5-point scale Likert type questions to assess students' satisfaction with the four dimensions of online instructor's roles.

The findings show generally higher satisfaction rate with managerial and technical roles than pedagogical and social roles. In the end, the authors called for more efforts by instructors to transform their roles from traditional classrooms to online ones so that they can establish a more engaging online learning environment. This study offers a good example of evaluating and examining online instructor roles in a particular asynchronous online course. Following their finding that the pedagogical role is still considered as a top priority by online instructors, I decided to pay special attention to how the online tutor in my study performed his pedagogical role.

2.2.3 A Comprehensive Review and Prioritization

Similarly, Bawane and Spector (2009) are also interested in prioritizing online instructor roles. Instead of following Berge's (1995) four-dimensional model, they conducted a comprehensive review of fifteen studies concerning online instructor roles and competencies. Based on their literature review, they developed an integrated list which consists of eight roles, with several specified competencies within each role. Then, a questionnaire was developed according to the list and sent to a group of experts, mainly from the US and India, who were asked to rank the eight roles 'in the order of significance for effective online teaching' (Bawane & Spector, 2009, p.391). Using a quantitative data analysis method, they obtained the following ranking of roles: pedagogical, professional, evaluator, social facilitator, technologist, advisor, administrator, and researcher. This result can be useful for teacher trainers to decide the extent of emphasis to be placed on each of these roles.

The contribution of Bawane and Spector's (2009) study includes an online teacher education framework which clearly states the relationships among online instructors' performance, skills, competencies and roles; a comprehensive literature review and a ranking of eight online teacher roles by 'experts'. But the research method can be problematic since data collected are completely quantitative, which lack qualitative evidence as to why these 'experts' ranked the eight roles in the way they did. Furthermore, as Berge (2008) emphasized, in real teaching practice, online tutors may perform several roles at the same time and some of these roles might be performed by a team of faculty staff rather than the online instructor alone. In addition, the ranking might be subject to experts' personal preference and beliefs in online teaching and can also be influenced by their cultural, educational and professional background. Therefore, while the final ranking can offer us a general understanding of what roles are considered more important in online teaching, researchers and online teachers need to interpret the result critically and reflect on it in relation to their own contexts as shaped by subject matter, technological affordances, students' needs, faculty members.

Despite the weaknesses, this study revealed a similar finding with Liu et al. (2005) that in online teaching contexts, pedagogical role is still the most important role for online teachers, which further strengthens my decision to closely investigate the online tutor's pedagogical role in my study.

2.2.4 A Critical Review and Analysis

Building on Bawane and Spector (2009), Baran et al. (2011) formulated a critique

of studies on online teacher roles and competencies from the perspective of transformative learning theory, which proposes to consider online teachers as ‘adult learners who continuously transform their meaning of structures related to online teaching through a continuous process of critical reflection and action’ (Baran et al., 2011, p.421). To produce a critical literature analysis, they employed a three-step approach: (1) identifying themes (including context, roles and competencies, research methods, implications); (2) comparing and contrasting various roles and the competencies within each role; (3) formulating a critique. The findings indicate that researchers have not sufficiently addressed the issues of empowering online teachers, promoting critical reflection and integrating technology into pedagogical inquiry.

Their findings could provide useful implications for future research and online teaching practice and teacher training design. The use of transformative learning theory and the focus on online teachers’ reflection offers a new perspective to understand online teacher roles and to design teacher training programmes. But in limiting themselves to the articles reviewed, the authors seem to have missed some important studies which addressed the issues they have raised. For example, researchers from the Open University UK have already stressed the importance of designing online learning tasks according to technological affordances (see section 2.5) (Hampel and Stickler, 2005; Hampel, 2009; Rosell-Aguilar, 2007). Another example concerns empowerment. Evans and Nation (1993, p.91) identified three major ideas involved in defining empowerment, which are “the notion of choice, of control of one’s life and of emancipation from ways of thinking which for the particular individual have limited both choice and control”. In Hampel and

Stickler's (2005) skills pyramid, online tutors are encouraged to make their own choices, be creative in online teaching design and develop their own styles, which conform to the definition of empowerment. Furthermore, White et al. (2005) found through an online tutor survey that online learners also need to be sufficiently empowered, which means they need to be treated as a 'mature and autonomous person', as Evans and Nation point out (1993, p.91).

The above review focuses on online teacher roles for education in general. In the following section, I will move to more specific online teacher skills and competencies in synchronous distance language teaching through audio/video conferencing tools.

2.2.5 An Integrated Theoretical Framework

A common goal of most research on online teacher roles is to inform and improve online teacher training. Based on several years' of experience with online language teaching in synchronous online environments and online teacher training at the Open University UK, Hampel and Stickler (2005) proposed a pyramid of skills necessary for successful online language teaching in synchronous computer conferencing classrooms (Figure 2). They listed seven skills related to online language teaching in a hierarchy from the most general and basic skills to 'an apex of individual and personal styles', suggesting that the lower levels are necessary before a higher level skill can come be successfully performed.

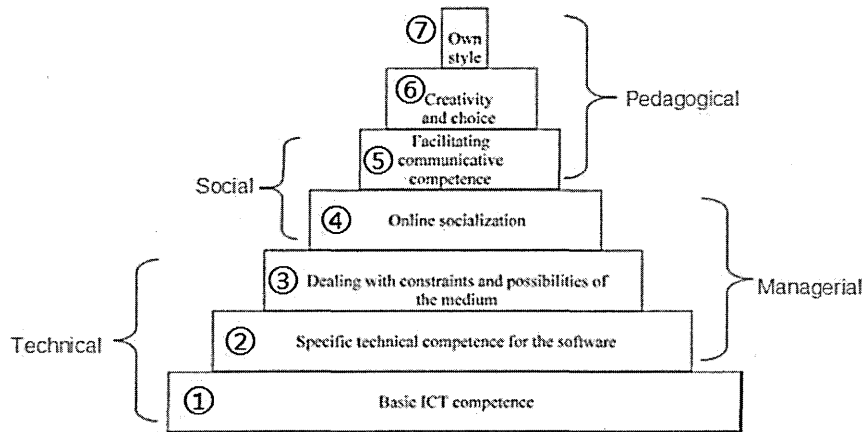


Figure 2: Skills Pyramid by Hampel and Stickler (2005)

and the Relationship with Berge's (1995) Model of Instructor Roles

Although this pyramid focuses on specific online tutor skills and competencies, it is possible to build a reasonable connection between this pyramid and Berge's (1995) model of Instructor Roles. As we can see from Figure 3, the first three skills are mainly concerned with technology. The most basic skill refers to the general ability to use computer, internet and common software, which is considered to be a prerequisite for selecting online tutors nowadays. The next level requires online tutors to be able to use the specific software for the courses they teach in their particular institution. For example, Blackboard Collaborate is the synchronous video/audio-conferencing tool currently used at the Open University UK. Building on the first two levels, online tutors also need to be able to identify and deal with the constraints and possibilities of the new medium (see also Section 2.4). Specifically, they need to adapt teaching materials and content, and equally important, to help students adjust their expectations of the online course. A good example for this skill is to give students simultaneous written feedback without

interrupting the student's oral contribution (Hampel and Stickler, 2005). It can be concluded that teachers are performing their technical role in Berge's (1995) model when using these three skills.

The next level concerns online socialization, which according to Hampel and Stickler (2005) refers to 'keeping discipline' in the online teaching environment. This clearly corresponds to the managerial role in Berge's (1995) model. However, to successfully perform the managerial role, online teachers need the basic knowledge of the specific software (level 2) as well as its affordances (level 3).

When online tutors and learners agree on and follow a common 'netiquette', they are able to pursue a higher pedagogical objective of 'communicative competence', where online tutors are expected to construct a sense of community and facilitate 'meaningful communicative interaction' (Canale and Swain, 1980, p.27; as cited in Hampel and Stickler, 2005). It should be noted that this skill is particularly concerned with language teaching pedagogy, but may also be useful for other online courses. Since both level 4 and 5 have a strong emphasis on online socialization and communication, they conform to the instructors' social role in Berge's (1995) model.

The final and most involved skills include creativity, choice and developing own style. Having obtained the previous skills, online language tutors are empowered to take charge by selecting, adapting and incorporating 'good and authentic language learning materials' into their online teaching and eventually to develop their personal and unique teaching style according to their specific context (see

also Section 2.4). The last three levels (level 5, 6 and 7) are closely linked to the 'pedagogical role' in Berge's (1995) model because these skills cannot be achieved without a comprehensive understanding of language teaching pedagogy.

Hampel and Stickler's (2005) skills pyramid has strong implications for online teaching training. For example, based on this framework, Hampel (2009) designed and conducted a training session for online language teachers at the Open University UK to develop their expertise in enhancing online learner interaction and collaboration. Some important skills are not included in this model, such as the skill of evaluating online learning tasks and the overall online course (see Compton, 2009), and the skill of motivating language learners at a distance (see Xiao, 2012).

Interestingly, even though Hampel and Stickler did not develop their skills pyramid on the basis of Berge's (1995) model, the two frameworks seem to be surprisingly consistent, and highly complementary with one focusing on general roles and another on more specific skills and competencies. The integration of these two models provides the theoretical framework for my multimodal analysis.

2.3 Research Questions

From what has been reviewed, it can be noted there exists a methodological gap within this research area. Many researchers (Liu et al., 2005; Bawane & Spector, 2009) choose to use interviews and questionnaire surveys to explore online teacher roles and competencies, but very few have examined online teacher performance

from real online teaching practice through discourse analysis. To fill this research gap, this study aims to examine online tutor roles and skills by analysing an online tutor's performance in an online tutorial recording through multimodal transcription. To be specific, my research questions are as follows:

(a) Why is teaching online in an audio-graphic conferencing classroom different from teaching in a traditional face-to-face classroom?

(b) What specific skills and competencies has the online tutor demonstrated in his/her online tutorials?

(c) How did the online tutor perform his pedagogical role and technological role in the audio-graphic conferencing classroom?

Chapter 3: Methodology

This chapter briefly introduces the research context and then proposes methods for data collection and data analysis based on the research questions, and provides rationale for my methodological choices.

3.1 Research Context

According to the L185 study guide (The Open University, 2012), L185 is an entirely online EAP (English for Academic Purposes) module developed by the Faculty of Education and Language Studies (FELS), OUUK. The purpose of this module is to enable students to develop their reading and writing in English for a range of academic purposes. Different forms of distance learning include self-learning materials, regular online tutorials, tutor marked assignments (TMA), a group forum for learning activities and Q&A with tutors. Students are encouraged to use the module in their own way which best suit their own studies. The L185-13J module being studied in this project was delivered in the 2013-14 academic year. The online tutor for L185-13J is a qualified and experienced English language teacher and a current doctoral researcher in education. All students in the selected segment of tutorial are native English speakers.

3.2 Research Design

This study employs multimodal discourse analysis to analyse some critical incidents based on L185-13J tutorial recordings and a video-stimulated recall interview with the online tutor. This section explains how these research methods

address my research questions on online teacher skills/competences, roles and implications for traditional language teachers to move online.

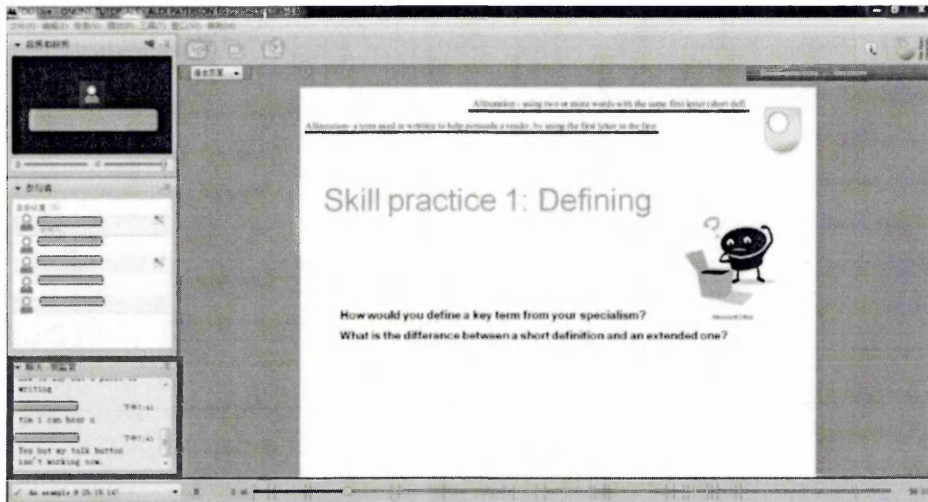
3.2.1 Multimodal Discourse Analysis

According to O'Halloran (2011), multimodal discourse analysis is an emerging paradigm in discourse studies which extends the study of language per se to the study of language in combination with other resources, such as images, scientific symbolism, gesture, action, music and sound. The systemic functional (SF) approach to multimodal discourse analysis (MDA) involves developing theoretical and practical approaches for analysing written, printed and electronic texts, three-dimensional sites and other realms of activity where semiotic resources (e.g. spoken and written language, visual imagery, mathematical symbolism, sculpture, architecture, gesture and other physiological modes) combine to make meaning.

Following the systemic functional approach to multimodal discourse analysis, this study aims to analyse how the online tutor integrate different modes of communication to perform his pedagogical and technical roles in order to shed light on what skills/competences traditional language teachers need to develop in order to deliver quality online language courses through audio-graphic conferencing tools. Stickler and Shi (2013) point out that the multimodal elements are determined by the affordances of the video conferencing software. In this case, according to the affordances of OU Live (Graph 3), the unit of analysis should be the comprehensive system consisting of four modes, including the online tutor and students' talk through the audio mode, text chat messages through textual mode, presentation slides through visual mode, as well as all participants' technological

operations. The multimodal transcription is designed to accommodate information in these four modes of interaction.

First, the top left corner of the screen shows who is talking or using their video camera, which shows the audio mode for online interaction. Technically, students can press their talk button and start talking whenever they want to without any technical constraints by their teachers. Due to the lack of non-verbal cues in the audio-graphic conferencing classroom, turn-taking and silences become two important factors for online interactions, which is why I added 'new turn' and 'silence/pause' column in the multimodal transcription. Second, an alternative mode to audio communication is a textual mode of communication which shows in the small window in the left bottom corner. Third, in the middle of the left hand side is the technical mode which presents a list of all participants and their technical status (talking, typing, raising hand) and some opinions (agree, disagree). This list shows how online interactions among teachers and students take place in online classroom, which have been recorded in the 'technological operations' column of the multimodal transcription. Finally, as for visual mode, presentation slides in the main screen contain key information about the tutorial for online students and teachers to follow. The change of slides is controlled by the teacher but all students can write on them just like writing on a whiteboard, which is another mode of written interaction and which is also why snapshots of slides are necessary in the multimodal transcription.



Graph 3: Modes of interaction in OU Live

3.2.2 Critical Incident Technique (CIT)

Critical Incident Technique (CIT) was first devised in 1954 by Flanagan (1954) to identify effective and ineffective work behaviours of pilot candidates in the Aviation Psychology Program of United States Army Air Force during World War II. According to Flanagan's (1954) definition,

the Critical Incident Technique consists of a set of procedures for collecting direct observations of human behavior in such a way as to facilitate their potential usefulness in solving practical problems and developing broad psychological principles. (p. 327)... [Critical] incidents are defined as extreme behaviours, either outstandingly effective or ineffective with respect to attaining the general aims of the activity. (p. 338)

Early CIT studies assumed a positivist approach. It was applied primarily in industrial psychology where researchers used CIT to capture what they believed to be measurable elements of job performance (Schwartz & Holloway, 2014). Chell (1998) adapted CIT in a qualitative approach by using unstructured

interviews to capture thought processes and the feelings about an incident that have meaning for the respondent (Chell, 2004).

In their 50-year review of CIT, Butterfield et al. (2005) concludes that CIT has become a widely used qualitative research method and has been recognized as an effective exploratory and investigative tool which has been applied in nursing, marketing, social work, performance appraisal, education and so on. For example, in the context of higher education, researchers have employed CIT to explore meaningful interactions between master students and professors (Schwartz & Holloway, 2014), to investigate undergraduate students' experience of effective teaching behaviours (Khandelwal, 2009) and to collect student feedback (Douglas et al., 2009).

Hannigan (2001) describes a critical incident as one which causes a person (in this case, the researcher) to pause and contemplate the events that have occurred to try to give them some meaning (in this case, to analyse what skills the online tutor demonstrated or what roles the online tutor performed behind certain online teaching practice). In this study, based on the aims of the study, to present beginner online language teachers the 'why', the 'what' and the 'how', I developed my own criteria for selecting critical incidents. An incident can be considered critical if (a) it shows some different ways of teaching in traditional classrooms and online classrooms; (b) the online tutor showed some skills/competences needed for online teaching (Hampel and Stickler, 2005) or (c) the online tutor performed pedagogical and/or technical roles as defined by Berge (1995).

CIT is suitable for this study for the following reasons. First, online tutorial recordings contain huge amount of data but the analysis needs to be focused on one or several important moments. CIT offers a good tool for selecting the focus. Secondly, this study shares similar goals with Flanagan (1954): Flanagan (1954) introduced CIT to identify effective or ineffective work behaviours, similarly, CIT can be used to explore good online teaching practice. Thirdly, CIT has been successfully used in educational settings, but it has been rarely employed in online classrooms to study online teacher roles and skills. Therefore, this study could learn from the previous studies and meanwhile fill the methodological gap in the field of online language teaching. Last but not least, in this study, CIT would be used in conjunction with a video-stimulated recall interview, which could further strengthen the multimodal discourse analysis.

3.2.3 Video Stimulated Recall

After selecting the critical incidents, I will carry out a video stimulated recall interview with the online tutor. Stimulated Recall is ‘a family of introspective research procedures through which cognitive processes can be investigated by inviting subjects to recall when prompted by a video sequence, their concurrent thinking during that event’ (Lyle, 2003, p. 861). It has been widely used in different disciplines including education. For example, Huang (2014) has used the video-stimulated recall method to gain a better understanding of what learners/test-takers do before, during, and immediately after performing an IELTS speaking task.

In this study, during the video stimulated-recall interview, the online tutor will be

asked to watch a chosen piece of L185-13J tutorial. I will stop the video at the critical and ask non-leading, probing questions such as ‘here you did this and that, what were you thinking there and then’ to facilitate the online teacher's recall and elicit his response. In this study, coupled with critical incident technique, the video-stimulated recall interview can help me collect data about what strategies online teachers use in order to deliver their online tutorial more effectively, what practical/technological context the online tutor was in at certain moments, and online teachers’ pedagogical considerations or intentions for doing certain things or acting in certain ways. It will provide me with the “insider’s view”, which cannot be obtained through other research methods. The data from the video-stimulated recall interview strengthens the multimodal analysis about online teacher roles and skills/competencies by directly quoting the online teacher’s words and avoiding researcher’s conjectures.

It needs to be noted that in this study, the stimulated recall would be carried out one and a half year after the actual online tutorial. So it can be argued that the online tutor’s memory could be vague. However, the online tutor has been teaching the same online module from two years ago until now. As an experienced online teacher, he has come across those ‘critical incidents’ many times and his rationale for certain behaviors are similar. Therefore, with the online tutor’s experience and the video stimulus, it can be argued that the online tutor’s answer, especially about the rationales can still be valuable data for my multimodal analysis.

3.3 Data Collection Techniques

The main form of data in this study are the online tutorials of L185-13J, which were recorded with students' informed consent and were made available for students to review at their own convenience. To collect such existing tutorial recordings as data, it is necessary to obtain official access to these recordings from the L185 module team and informed consent from the online tutor. A section of tutorial will be selected for detailed multimodal transcription and multimodal discourse analysis.

Another part of data is an online stimulated recall interview, which will be conducted after initial multimodal discourse analysis and the identification of critical incidents in the chosen piece of tutorial recording. This interview will be video recorded and transcribed in traditional conventions to facilitate the multimodal discourse analysis.

3.4 Alternative Research Methods

Alternatively, this study could use thematic analysis to first identify some strategies the online tutor often use in some frequently occurring situations, then interview the online tutor about his rationales for the strategies, and finally analyse the online tutor roles and skills based on the tutorial recordings and the interview data. Although the result of such a theme analysis could be more representative, it requires much greater amount of data to be analysed, which is not manageable within the time limit for a master level dissertation. Furthermore, frequency does

not necessarily equal to significance. The combination of multimodal discourse analysis, critical incidents technique and video-stimulated recall interview is a more cost-effective and straight forward way to explore my research questions on online tutor skills, roles and implications.

This chapter justifies my choices of research methods for addressing my research questions, and the next chapter will report on the data collection process and present the specific multimodal analysis.

Chapter 4: Data Collection and Data Analysis

4.1 Data Collection

This study shares the exploratory nature with most qualitative studies, meaning that the research questions have been developed through a long and spiral process of exploration, self-questioning, reflection and amendments. Data collection was one of the most crucial stages for shaping my research questions. The following chapter reports on my actual data collection process, discusses ethical issues, justifies the development of my research questions and describes the multimodal transcription process.

4.1.1 HREC Application and Ethical Guidelines

Starting from the broad idea of a comparative study, I wanted to study the modes of interaction in OU Live L185-13J and an online IELTS Speaking test preparation course developed by Channel 8640, an online English course provider on 100Edu, one of the largest online learning platforms in China. The focus then was on what strategies and techniques online teachers use to facilitate online interaction. My ethical application was based on this initial research plan.

As described in my HREC application form, the intended data for this initial plan included video recordings of the two online workshops/tutorials, recordings of interviews with the online teachers of both classes and the teaching assistant for the online IELTS speaking class. Since there was an open online course by Channel

8640 on 15th February 2015, I submitted the HREC application on 4th February and soon received a 'favourable opinion' by Chair's Action. My HREC reference number is HREC/2015/1923/Li/1. As promised in the HREC application form, I have been always following all the related ethical guidelines throughout the whole research process. The relative ethical guidelines for the current study include:

- (a) The Ethics Principles for Research Involving Human Participants (Ess and the AoIR Ethical Working Committee, 2002; and Markham, Buchanan and AoIR Ethics Working Committee, 2012)
- (b) The Code of Practice for Research at the Open University
- (c) The ethical guidelines published by the British Educational Research Association (BERA).

4.1.2 The Actual Data Collection Process V.S. The Initial Plan

The data collection process may differ from original plans due to many practical issues, such as the accessibility of data, copy right problems, participants' performance and also third party gate keepers.

4.1.2.1 Data from OUUK

The data needed from OU L185 13J are existing materials (online tutorial recordings), so gaining access to them became the major part of data collection. On 4th March, I obtained the official permission from the L185 team chairs and the informed consent from the online tutor. Since there was no other form of data collected from students than existing tutorial recordings, this study will have no

influence on students' online learning experience. And all students' names and personal information will be anonymised. Therefore, it is not necessary to seek informed consent from the students.

Another part of data from the OUUK is the video stimulated recall interview with the online tutor, which was collected after my initial data analysis in July 2015. The interview seemed to be smooth and successful until I started writing my data analysis and could not find much of the information I needed from the online tutor to support my analysis. As I reflected on the video-stimulated recall interview, the reasons for its failure were threefold. Firstly, I did not decide which critical incidents to analyse before the interview, which was why I asked too many questions, making the interview extremely long (1.5 hours) but without a clear focus. Secondly, the questions I asked were too general, but they should instead be specific in order to find out why and how certain things happened there and then. Finally, as a new researcher faced with an experienced online teacher, I lacked confidence and as a result, the conversation became led by the interviewee and I forgot to ask some questions I had prepared. Therefore, after writing my first draft of data analysis and knowing exactly what information I need from the online tutor, I carried out another email interview where I asked very specific questions about some particular critical incidents. Luckily, I received the online tutor's quick reply but he was not able to access the tutorial recording when he replied to me and he could only answer my questions based on his memory of the previous video-stimulated recall interview. The quotations used in my data analysis (Section 4.2) were selected from both interviews.

4.1.2.2 Data from China

My data collection process with Channel 8640 was much more difficult. Several ethical issues occurred including informed consent, third party gate keeper, copy right issues and cultural differences. Eventually, due to substantial discrepancies between the research guidelines I needed to follow at the OUUK and the actual data collection process from Channel 8640, I decided not to use any data from Channel 8640 for the current study, leading to a change of my research questions.

4.1.3 Ethical Issues

The following section quotes my original plan in the HREC application, describes what actually happened, and discusses how I dealt with these issues and why I made certain ethical choices.

4.1.3.1 Recording and Copyright Issues

'The online IELTS speaking course will be video recorded by me on 15th Feb 2015. I will only record the online class if I can obtain the consent from the online course manager, the online teacher, and the teaching assistant before this date.'

The teaching assistant for the online workshop on 15th Feb 2015 was the only person I had direct contact with from Channel 8640. He recorded the online workshop and sent it to me through email. This was more appropriate than me doing the recording (as planned) because in this way Channel 8640 could be fully aware of what they had offered me for research. However I was not given any

signed informed consent from Channel 8640, although the teaching assistant claimed to have been authorized by the course manager to offer me their official approval to use their recordings for research purposes.

However, there was a major inconsistency concerning the copy right of this recording. According to the Channel 8640 official website, all online class recordings belong to a company registered in Beijing called “Mr. Zheng and His Friends’ Education and Technology Institution Ltd”. However, the beginning of the video claims that ‘The copyright of this video is owned by the Southeast International Education Institution Inc., a company registered in XXX South California, United States.’ There is no publicly available information about this company from the internet and I did not receive any explanation from Channel 8640 regarding this issue. With the copyright issue unresolved, the use of data from Channel 8640 could be both ethically and legally problematic. This is an important reason why I eventually decided to abandon the use of these data for my research.

4.1.3.2 Informed Consent

As for students’ consent, the plan was as follows.

“To secure consent from participants in the IELTS online speaking course, the teaching assistant would be asked to display an advance announcement (in the form of a poll) before the class starts, to inform students that the online IELTS speaking course on 15th February will be recorded for research purposes, that confidentiality will be maintained and that all data will be anonymised. Students will be asked to choose ‘Yes, I agree’ or ‘No, I

don't agree' according to their own preference. For those students who refuse to give their consent, I will exclude all their interactions and performances from data analysis."

Unfortunately, unlike planned, the teaching assistant did not inform students of my research project throughout the whole online workshop. Therefore, I proposed to post an announcement notifying students of my research project and asking for their permission to analyse their class performances. For this I was told by the teaching assistant '*I think it's better if you take it off*'. To respect the decision of Channel 8640, I decided not to post the announcement. Having failed to obtain consent from students, I did not use this part of data for my research.

4.1.3.3 Interview with the Online Teacher

According to my HREC proposal, '*interviews will be conducted and audio recorded online through audio/video chatting software (e.g. Skype and QQ) within two weeks after the online classes*'. I proposed an online interview and attached a list of possible interview questions to the teaching assistant. In his reply, he sent me a list of the online teacher's written answers to my questions instead of arranging a live online interview. The teaching assistant acted as a third party gate keeper to prevent me from any direct communication with their online teacher and students. There was barely any discussion or negotiation on the data collection process between me and Channel 8640. Such a data collection process may not be transparent and the data collected can be potentially problematic, which is another reason why I decided to abandon the data collected from Channel 8640.

4.1.3.4 Cultural Differences

Finally, I would like to discuss the cultural gap between UK research ethical guidelines and Chinese people's general view. Fry (2006) stresses the necessity to think globally about culturally specific values. As an OU research student, I need to follow British research ethical guidelines, but in the case of Channel 8640, most participants and the institution's staff are Chinese. This is where the gap occurs. For example, in this study, it might be the case that many Chinese students themselves do not care or do not fully understand the need for informed consent. Furthermore, in Chinese academic context, issues around research ethics such as privacy or informed consent are also not given sufficient attention. This is one of the cultural differences which not only affect my data collection process in this study but also pose constant challenges for me as a Chinese student doing research in a UK academic institution but with Chinese participants or institutions. I have learned to adapt myself to the UK academic style gradually, but it is necessary to reflect on the cultural reasons behind the failure to collect ethically satisfying data from Channel 8640.

4.1.4 Multimodal Transcription

Having decided to focus only on L185-13J, I followed a bottom-up method to identify some themes from my data. After watching recordings of all six tutorials in this online EAP module and exploring potential research themes, I decided to choose the first eighteen minutes of tutorial two as my data for further multimodal transcription and analysis. This segment of recording was chosen because it has a

moderate number of student participants (four to five students), which is neither too many for the online teacher to handle, and nor too overwhelming for me to do multimodal transcription and analysis. There were also a considerable amount of teacher-student interactions which provides rich data for the multimodal analysis, and several critical incidents which could shed light on my new research questions about online teacher skills and roles.

The multimodal transcription conventions were based on the transcription of an online Chinese Language Teaching tutorial (Stickler and Shi, 2013) and were adapted for the current online EAP course.

First, the audio channel of the target piece of recording was transcribed into texts with information on time, speaker and audio transcription. Next, multimodal element including technical operations, new turn, silence/pause, presentation slides were added to the original transcription and transformed into a multimodal transcription. The rationales for selecting these elements in the multimodal transcription have been presented in Section 3.2.1 in the Methodology Chapter. Finally, researcher's notes, interview questions and the online tutor's answers were added to the multimodal transcription for further data analysis.

Section 4.1 reports on the actual data collection process and the multimodal transcription process. This will be followed by a detailed multimodal discourse analysis on four critical incidents.

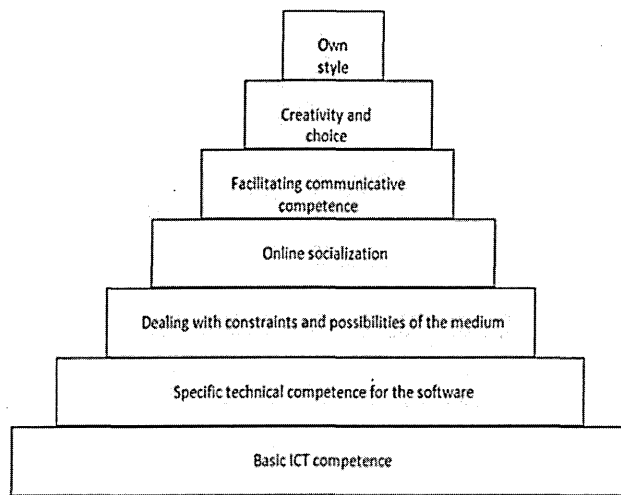
4.2 Data Analysis

Before going to the multimodal discourse analysis in detail, it is important to first know the context of the chosen EAP tutorial, and connect the research questions and theoretical frameworks with the analysis.

The segment of tutorial recording chosen for multimodal transcription and analysis focuses on students' academic thinking and writing skills. Specifically, it is about how to define terms and classify concepts in an academic style. Before this tutorial, students should have already read their module materials and done some online learning activities from the L185 module website. In the chosen segment of tutorial, the online tutor first introduced the aims and plans for the tutorial, then asked students to review what they had learned by themselves before the tutorial, and finally he examined students' self-learning outcomes by asking students to define a key term in their own specialism. This piece of tutorial recording contains different forms of student-teacher interactions and the typical multimodal challenges online teachers would usually face in an audio-graphic conferencing classroom, all of which offer rich data for answering my research questions.

The first research question concerns what specific skills/competences the online tutor demonstrated in the audio-graphic conferencing classroom. I analysed the online tutor's behaviours and his rationale for certain behaviours based on Hampel and Stickler's Skills Pyramid (2005) (Graph 4). It needs to be noted that since the primary goal of L185 is to develop students' academic writing skills and students were all native speakers, the skill of 'facilitating communicative competence' does

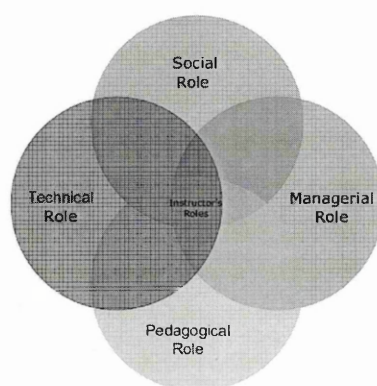
not seem to be suitable in this case. However, all other skills/competences in the Skills Pyramid could be possible if the online tutor were sufficiently competent for delivering the module in this particular audio-graphic conferencing environment.



Graph 4: Skills Pyramid (Hampel & Stickler, 2005)

Furthermore, the second research question aims to explore what roles the online tutor performed in the audio-graphic conferencing classroom and in what ways the online tutor fulfilled his roles. The analysis of online tutor roles will be based on Berge's Model of Instructor Roles in online educational environments (1995). The four main roles proposed by Berge (1995) include pedagogical role, technical role, managerial role and social role (Graph 5). This analysis will mainly focus on two roles: the pedagogical role, which is the most important one in any form of teaching; and the technical role, which provides technical support for the online tutor to deliver his tutorial in this completely online course. To be pedagogically competent, online instructors need to 'use questions and probes to elicit student responses, keep discussions on track, contribute to special knowledge, weave together various discussion threads and course components' (Rohfeld & Hiemstra,

1995, p.91; as cited in Berge, 2008). As for the technological role, Berge (1995) suggests that online teachers should try to make technology as transparent or non-disturbing as possible so that students could fully concentrate on learning. In the case of L185-13J, this role includes organising classroom activities and interacting with students through the use of technology and dealing with technological problems for himself and his students.



**Graph 5 Model of Instructor Roles in Online Educational Environments
(Berge, 1995)**

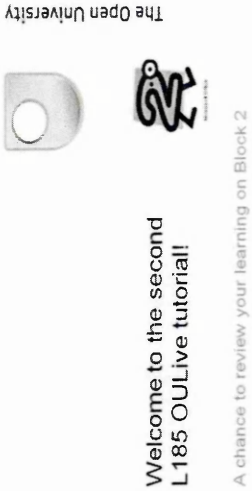

Finally, to find out the implications in real teaching practice, I will compare the different ways of communication between audio-graphic conferencing classrooms and traditional face-to-face classrooms. Reasons will be explained in terms of why certain additional skills are needed in online teaching environments and suggestions would be made for classroom language teachers who want to move teach online.

Four critical incidents have been selected for further multimodal discourse analysis for the following reasons. First, they all show different features of teaching and learning from traditional face-to-face classrooms. More importantly, in these

incidents the online tutor demonstrated some important online teaching skills/competences and performed his technological and pedagogical roles effectively. Last but not least, these critical incidents happen frequently in the audio-graphic conferencing classroom and are presented from easy situations (such as the change of a slide) to more involved ones (such as multimodal challenges). The aim of selecting these critical incidents is to show beginners online language teachers the differences between teaching online and teaching in face-to-face classrooms, provide them with some frequent situations and challenges in online classrooms and make suggestions on specific skills and roles they need to develop in order to become successful online language teachers.

As discussed in the Methodology Chapter, Section 3.2.1, the unit of analysis in this study is the online teaching/learning system as a whole, focusing not only on oral conversation, but also on the affordances of the technology that accommodate interactions, and participants' technological operations which make the online interactions happen. The multimodal discourse analysis of these four critical incidents are presented below.

Extract 1: Critical Incident 1: The Change of a Slide

Time	Technical Operations	Silence /Pause	New Turn	Speaker	Audio Transcription	Presentation Slide
01:13.0				T	em, I'll go through some of the sl..th the material that has occurred so far you've covered so far in.. the sort of ..th th the previous blocks but as we go along again if yo you know a...a...as questions occur do please ask...so hopefully.. when I do this	 <p>Welcome to the second L185 OULIVE tutorial!</p> <p>A chance to review your learning on Block 2</p> <p>The Open University</p>
01:33.9	At 01:33.9, T changed a new slide; From 0:01:48.0 to 0:01:59.3, S2 turned on his video camera			T	you should see the aims of this.. em..I am conscious that we've only got an hour.. so it may well be that we.. we need to sort of ok we run in an hour that's not impossible but if we end up having to use the tutor group forum that's fine from my perspective and I would start reach there about the tuto...you know second tutorial an.. and sorry second TMA second assignment and so on	 <p>Aims</p> <p>In this second tutorial session, you will be able to share some of your learning on Block 2, you will get more practice in some of the skills you have learned about in Block 2.</p> <p>Remember: It may be necessary for your question(s) about the course to be answered on the Forum, later, or indeed by a personal e-mail.</p>

4.2.1 Critical Incident 1: The Change of a Slide

Skills

Extract 1 shows the beginning of this tutorial (from 01:13.0 to 02:07.9) when the online tutor changed a slide for the first time. According to the multimodal transcription above, the teacher made a coherent transition between two slides by using one sentence to connect them: ‘So hopefully when I do this (change a slide), you should see the aims of this (the second tutorial)’. This action shows that the online tutor possesses at least the two most basic skills/competences in Hampel and Stickler’s Skills Pyramid (2005): basic ICT competence and specific technical competence for the software OU Live.

Roles

When asked the rationale for this sentence, the online tutor listed two reasons:

Partly I have an innate distrust of OU Live as it is quite unpredictable, so I am never completely sure that it will do what I expect, and partly to let students know that I was about to change the slide.

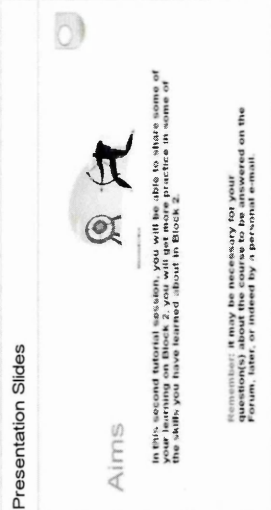
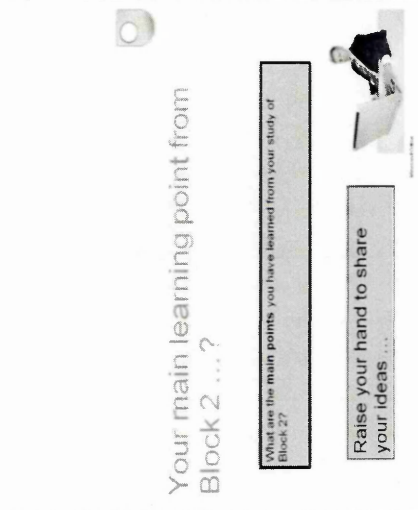
The above rationale has demonstrated the online tutor was conscious of his technical role and pedagogical role, as defined in Berge’s Model (1995). As the online tutor explained, the transition sentence has two functions. Pedagogically, it connects the content of the two slides in a coherent manner and draw students’ attention to the new slide. Technically, the teacher was trying to examine whether students could see the new slide from their computer screens, which was implied in the word ‘hopefully’. If a student could not see the ‘aims’, he/she would know there was a technical problem and should report to the online tutor. Otherwise, if

no one reports any problem, the tutor would assume that students were looking at the correct slide.

Implications

In a traditional face-to-face classroom, when teachers change slides, the transition sentence is not necessary because there are no physical barriers to communication between teachers and students. But in an online audio-graphic conferencing classroom, due to the lack of non-verbal cues (such as gesture, eye contact, facial expression), it is extremely important for online teachers to convey all their ideas very explicitly. Furthermore, teachers and students in online classrooms do not share one computer screen, instead, everyone uses their own computer. Therefore, online teachers need to constantly check whether there are any technical issues for students and whether students and teachers are on the same page. This example suggests that the online teacher was fully aware of his pedagogical and technical roles and was able to synthesize the two roles effectively in the audio-graphic conferencing classroom.

Extract 2: Critical Incident 2: The Use of Silences

Time	Technological operations	New Turn	Pause/Silence	Speaker	Audio Transcription	Presentation Slides
02:05.9				T	so.. moving on	 <p>Aims</p> <p>In this second tutorial session, you'll be able to share some of your learning on Block 2, you will get more practice in some of the skills you have learned about in Block 2.</p> <p>Remember! It may be necessary for your question(s) about the course to be answered on the Forum, later, or instead by a personal email.</p>
02:07.1	T changed to the next slide			T	to the next slide I'll put up there ... and stop talking so hopefully this (laughing to himself) doesn't end up with me doing all the talking	
02:21.8	Silence started					
02:22.3	T's mtc off		22.5 s			
02:42.8	T's mtc on					
02:44.3	Silence ended, T started talking	NT		T	ok so..so wha what so...what are th th the that people have learned so far from block 2?	 <p>Your main learning point from Block 2 ...?</p> <p>What are the main points you have learned from your study of Block 2?</p> <p>Raise your hand to share your ideas ...</p>
02:48.1	S1 typing icon on			T		
02:54.2	Silence started					
02:54.8	T's mtc off		19.4 s			
03:11.8	T's mtc on again					
03:13.6	Silence ended, T started talking.	NT		T	ok so I I I I'll take it from that .. coops, ok, S1?	
03:17.9	S1 raised her hand			T		
03:21.6	Silence started					
03:23.4	S1's text chat message appeared: It has given me an idea of how to lay out a piece of writing		7.3 s			
03:26.9	Silence ended, T started talking	NT		T	ok so it has given me an idea of how to lay out a piece of writing.. ok yeah good point yeah very much so with things like em.. like paragraphs structuring paragraphs and so on yeah good point	
03:30.3	S1 put down her hand			T		

4.2.2 Critical Incident 2: The Use of Silences

While extract 1 presents the piece of online tutorial in which the online tutor continued talking after the change of slide, extract 2 offers an example of how the online tutor used strategical silences to encourage students' thinking activity and online interaction. In this critical incident, the online tutor used three successive silences. Each of them has their own rationale, which will be presented below.

4.2.2.1 The First Silence

Skills

According to the transcription, after changing a new slide, the online tutor drew students' attention to the questions and made it very clear to students that he would stop talking so that it "doesn't end up with me doing all the talking". In the stimulated recall interview, the online tutor offered his explanation,

I said that because I was trying to encourage them to actually say something, to contribute...

This example demonstrates the online tutor's online socialization skill in the Skills Pyramid (Hampel and Stickler, 2005) because he was trying to create a sense of community within the class and encourage students to share their responsibility and participate in interactions.

Roles

The online tutor used 'questions and probes to elicit student response' (Rohfeld & Hiemstra, 1995, p.91; as cited in Berge, 2008), which conforms to Berge's (2005) definition of pedagogical role in an online educational environment. This is

followed by a pedagogically strategic silence (from 02:21.8) through a technological operation of switching off the talk button at 02:22.3. By turning off his microphone, the online tutor intentionally stepped back in order to implement his pedagogical objective of leaving students some quiet time to think about the questions. This is another example of the combination of both the pedagogical role and the technical role.

Comparison and Implication

In traditional classrooms, silence usually happens naturally when students are thinking or doing exercises. There is no need for teachers to tell students explicitly about the silence. However, in online classrooms, it is essential for online teachers to be very explicit about what is going to happen next so that students are well prepared for the silence. Otherwise, as the online tutor's said in the video-stimulated interview,

if I ask a question and then just stop talking, very often nothing happens... Sometimes I think it's best to say 'right, I'm going to stop talking so that you can now do this' and then I stop talking...

This example shows one important difference between classroom teaching and online teaching. Because people cannot see each other's facial expressions and gestures, online teachers need to give very clear and explicit instructions in order to avoid misunderstanding and confusion.

4.2.2.2 The Second Silence

Skills and Implications

At 02:42.8, the online tutor turned on his microphone and started talking again. But he did not directly move on to the next slide, instead, he repeated the question to further encourage responses from students. This is another typical example of the online tutor performing his pedagogical role. Meanwhile, one student's (S1) typing icon appeared, from which the online tutor could assume that someone was preparing an answer in the text chat box. Therefore, right after repeating the question, he stopped talking again at 02:54.2 and soon turned off his microphone at 02:54.8. This silence lasted 19.4 seconds. As he recalled in the interview,

I switched of my talk button so that students would not feel that I was about to say something or that they might have been interrupting me. The message I wanted to convey was that they could talk, that they had permission to talk. I wanted to make it clear that we had reached a transition relevance point where one speaker indicated that another speaker could or should take over.

The above sentences have demonstrated that the online tutor possesses two skills/competencies in Hampel and Stickler's (2005) Skills Pyramid. Not only does the online tutor have specific technical competence for the software, in this case, OU Live, but also he was capable of making use of the possibilities of the medium to support his teaching and to give students technological indications of turn taking opportunities (Hampel and Stickler, 2005, p.317).

Roles and Implications

This silence also allowed more time for other students to think and participate in interaction. In an audio-graphic conferencing classroom, just because there is no technical sign of students' interaction, for example, a student is neither typing answers (for written interaction) nor raising hand or opening his/her microphone

(for oral interaction), does not mean the student completely does not have the intention to interact. There are at least three possibilities if a student shows no sign for interaction after given a question and a silence to think about it. One possibility is that the student wants to interact with the online tutor orally through the audio channel instead of typing answers in the text chat, but he/she is still organising his//her language, which is why he/she is neither typing nor raising his/her hand. Similarly, another possibility is that the student wants to type his/her answer but is still thinking how to express his/her ideas clearly and have not started typing yet. And surely, it can also be possible that the student simply does not want to interact with the teacher.

In audio-graphic conferencing classrooms where online teachers cannot see students' gestures and facial expressions, it is very hard to tell what students are doing, whether they are thinking or whether they plan to interact. Online teachers need to be patient and understand that in online classrooms, just because there is no technological movements does not mean there is no learning taking place. In the video stimulated recall interview, the online tutor shared his online teaching experience and his understanding of silences in online teaching:

A student once said to me it's nice to have permission to be quiet. I think it is important because in lessons we often assume that activity always means learning. But here for a lot of students who lack the visible activity, silence also means that learning is taking place because they are thinking, they are reflecting on things, they are making connections. If I'm constantly talking, then I'm interrupting that.

The above citation and discussion illustrate that in online teaching environments, using silences properly can provoke students' independent thinking and lead to effective learning. Therefore, I propose to add 'using silences properly to give students sufficient time and space for independent thinking and learning' to the definition of pedagogical role in Berge's (1995) Model of Instructor Roles in online educational environments.

The online tutor's reflection also demonstrates that it is important for traditional classroom teachers to understand how learning happens for students in online classrooms so that teachers could make better use of the affordances of technologies to facilitate students' learning process.

4.2.2.3 The Third Silence

Skills and Implications

After another silence of 19.4s, while S1's typing icon was still on, the online tutor decided to 'take it from [there]'. As discussed before, just because there is no technical sign of interaction does not mean students do not have any intention for interaction. Similarly, just because there is technical sign of interaction does not guarantee that student will definitely participate in classroom interaction. For example, in this case although S1's typing icon was on, it did not necessarily mean that she would publish her answer. Technically speaking, the typing icon would appear next to a participant's name in one of the following situations. (a) Someone is typing. (b) Someone might have typed something for some previous interactions or questions but has not posted it and then forgets to delete it and leaves it there.

(c) Someone might have typed something for the current interaction but is still thinking or editing, for example looking for some more suitable language to give voice to his/her their ideas. In all these three situations, there is no guarantee that the student will definitely publish his/her answer because it will depend on how confident they are in expressing themselves. The above analysis demonstrates that online teachers should not assume that whenever someone's typing icon is on, he/she will definitely participate in classroom interaction. Sometimes, online teachers cannot make pedagogical choices solely based on certain technological indications. It takes both a comprehensive knowledge of the affordances of the technology (Hampel and Stickler, 2005) and a profound understanding of students' online learning process to decide when is the best time to break silences and move on.

From what has been discussed above, it can be concluded that the online tutor made a reasonable decision to stop the silence and said "ok, so I'll take it from [there]". This sentence not only drew students' attention back to the online tutor from thinking about the question in silence, it also gave a last chance to those who wanted to contribute an answer. S1 raised her hand, reassuring the teacher that she had an answer to share. The online tutor responded quickly by calling the student's name with a rising intonation to show his interest in and his permission for S1's answer. He then stopped talking at 03:21.6, but noticeably, this time he did not turn off his microphone. In the interview, the online tutor explained that he was expecting S1's oral interaction:

I didn't turn off my microphone because I had asked S1 and this indicated, or

I felt it indicated, that I was waiting for S1 to say something.

By addressing S1 by their name and not switching off his microphone, the online tutor indicated to S1 that he was ready for oral interaction. This example demonstrates the tutor's online socialization skill according to Hampel and Stickler's Skills Pyramid (2005).

Roles and Implications

However, S1 preferred written interaction instead of talking. In less than 2 seconds, at 03:23.4, S1 posted her answer in the text chat box. However, rather than directly commenting on S1's answer, the online tutor intentionally paused for a few seconds and read out S1's answer. As the online tutor recalled,

I read answers aloud for two reasons: first, to show students that I have read and valued their comment, and, second, to give myself and others a little extra time to think about a response. Sometimes I read the answer and then read it out if I feel that more time is needed.

The online tutor demonstrated a good strategy before giving feedback to students: to read answers aloud. As the online tutor explained, he was performing his pedagogical role by reading aloud students' answers because it is encouraging for students who contribute and gives teachers and other students more time to process and respond to the answer.

It should be noted that in the tutor's feedback and elaboration, he used rising intonation for the reason below,

[I wanted] to check that I have understood the question and have given an answer that makes sense to the student... [I also wanted] to show that students can confirm whether I have answered the question from their

perspective...

In a face-to-face classroom, a student would possibly nod or give the teacher a glance to suggest that the teacher understands he/her correctly, but in the online classroom, the online could only assume he was right as long as S1 did not make any further comments. It would have been good for the teacher if S1 could have typed a smiley or 'thumb up' to show her confirmation.

In an online classroom, not only teachers but also students need to express themselves explicitly to make the online learning more effectively. Students need to have a good knowledge of the affordances of the online learning environment in order to understand teachers' indications behind certain technological operations or vocal expressions. This could be achieved by some individual students. However, to ensure smooth and coherent communication between students and teachers in audio-graphic conferencing environments, online teachers could establish some agreements together with students when opportunities occur. For example, in this case, the online tutor could tell students to respond to him after his feedback, especially when he used many raising intonations. Therefore, I propose to add it to the technological role for online teachers in Berge's (1995) model that online teachers should train students about how to interpret teachers' technological operations and vocal expressions and how to respond to teachers' indications so that they could achieve mutual understanding and tacit cooperation.

4.2.2.4 Three Silences: Comparison and Implication

Having analysed the three silences, we need compare them and learn how the

online tutor decided when to break the silence. It can be seen that as time went by, the online tutor's expectation for students' participation increased gradually. This can be seen from the decreasing length of each silence from 22.5 seconds to 19.4s and eventually only 7.3s. When asked at interview about how to decide the length of silence in an online tutorial, the tutor talked about his feeling during silence and his own online teaching preference. The interview transcription below shows part of the conversation between the online tutor (T) and the researcher (R).

R: How did you feel during these three pieces of silence?

T: I feel like the longer it (silence) goes on, the more uncomfortable I become. But what I do is that I set myself an absolute maximum usually of about 30 seconds. That upper limit I will only go to two possibly three times during the whole tutorial.

R: Where do you get this 30 seconds?

T: Haha (laugh)... this is gonna sound silly but that's the maximum I am comfortable with.

R: So it comes from your own online teaching experience?

T: It does and also I think to myself that 30 seconds, 3 sets of 30 seconds worth of silence is the maximum amount of unproductive [work] or maximum amount of silence I want in there.

It can be deduced from the above interview extract that the online tutor has reflected on his own online teaching experience and has already developed his own online teaching preference and style, which is the top level of online teacher competence in Hampel and Stickler's Skills Pyramid (2005). He also compared the different ways of ending silence in face-to-face classrooms and online

classrooms.

What I usually do in the classroom...I'd let it go on for 25 30 seconds and then I just look at everybody and smile. But what I'm conscious of here is that they can't see me smile so I tend to say 'right ok here we go', sort of start talking again. 30 seconds is a decent choice, more than long enough for those who want to talk. And what I don't want to do is to take someone who's shy (and compel them to talk).

This also shows the online tutor was fully aware of the affordances and constraints of the audio-conferencing classroom and has developed his own way of dealing with them (Hampel and Stickler, 2005). He attempted to allow sufficient time for those students who want to engage in interactions, but also tried to respect those who are relatively quiet or introverted:

Very often what happens is that no group of students are the same. Sometimes, I have a small group, very talkative, very engaged very lively students who turn up in all the tutorials, so all I need to do is to ask a question, switch my microphone off and 2 or 3 min later I will re-join the conversation. Other ones, won't talk at all. I have students who say they don't have microphones and I often find that all of them tend to type in the chat box. So again, it varies. For me this is probably the more important than other factors that it's very much the group of students and what they like.

Therefore, the decision as to how long a piece of silence should be in an online tutorial not only derives from the tutor's online teaching experience and his

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preferred online teaching style, it is also based on the online tutor's comprehensive knowledge of individual differences between the students in tutorials.

Extract 3: Critical Incident 3: Multimodal Challenges

Time	Technological Operations	Silence/Pause	New Turn	Speaker	Audio Transcription	Presentation Slide
05:59.9						<p>Skill practice 1: Defining</p> <p>How would you define a key term from your specialism? What is the difference between a short definition and an extended one?</p>
06:20.3	S4 raised his hand	21.8s of silence				
06:21.6	T's mic on		NT	T	Ye S4 ye go on	
06:21.7					pause	
06:24.4	T's mic off	short pause	NT	S4	Can you hear me Alex?	
06:25.1	S4's mic on	7.5s of silence	NT	S4	Can you.. can you hear me?	
06:35.8						
06:37.3	Alex typing icon blinked					
06:46.0	S5 started typing in the text chat box					
06:53.4	all background noise stopped until					
06:56.7	06:58.0	25.3s of silence				
06:58.1	S5 text chat message appeared "S4 I can hear you."					
06:58.2	S4's mic off					
06:59.3	T text chat message appeared "yes buy my talk button isn't working now"					
07:02.6	T's mic on		NT	T	em yes sorry my somy S4 yes I could my my talk button was hanging up for a second then	
07:08.9	S5's typing icon on; the text "Alliteration-using two or more words appeared on the up right hand comer of the slide	long pause (5.6s)				
07:09.1	T's mic off					
07:10.2	S5's typing icon off		NT	S4	ok hum yes I've I've just got a couple of questions about em about this idea of of definitions em I wasn't quite sure e I've got two questions really em when defining em this the concept that I was going that I thought I was gonna em define em I'm not sure	
07:12.4	S4's mic on					
07:14.0						
07:43.2	S5's typing icon on and a second line of answer appeared on the up right hand comer of the slide "Alliteration- a term used in writing to help persuade a reader, by using the first letter in the fi"	short pause		S4		
07:44.2				S4	em	
07:44.7	S5's typing icon off			S4	when it says which categories does the term belong to I wasn't quite sure em what was meant by which category does the term	

Time	Technological Operations	Silence/Pause	New Turn	Speaker	Audio Transcription	Presentation Slide
07:52.6	S5's typing icon on, S5's second line of answer was moved to the horizontally middle part of the slide			S4	belong to and	<p>Aliteration - using two or more words with the same first letter (short def)</p> <p>Aliteration - a term used in writing to help persuade a reader, by using the first letter in the first</p>  <h2>Skill practice 1: Defining</h2> <p>How would you define a key term from your specialism? What is the difference between a short definition and an extended one?</p> <p>Aliteration - using two or more words with the same first letter (short def)</p> <p>Aliteration - a term used in writing to help persuade a reader, by using the first letter in the first</p> 
07:54.0	S5's typing icon off			S4	he other thing was em I wasn't sure em about the question of what makes the terms different from other things or	
08:01.2	S5's typing icon on, but there's no change on the slides			S4	concepts in the same category	
08:03.3	S5's typing icon off			S4		
08:04.5		long pause (4s)				
08:05.9	S4's mic off					
08:07.5	T's mic on					
08:08.5			NT	T	ok okay yeah good point the the the difficulty with with categories is that we can pretty much choose any category that we want to so if I'm just trying to think of an example em you could say	<p>Aliteration - using two or more words with the same first letter (short def)</p> <p>Aliteration - a term used in writing to help persuade a reader, by using the first letter in the first</p>  <h2>Skill practice 1: Defining</h2> <p>How would you define a key term from your specialism? What is the difference between a short definition and an extended one?</p> <p>Aliteration - using two or more words with the same first letter (short def)</p> <p>Aliteration - a term used in writing to help persuade a reader, by using the first letter in the first</p> 
08:23.0	S5's typing icon on and the third part of her answer appeared to the right of the second part "letter twice it helps to put t" showed on the left side of the slide, the rest of her answer went out of the margin of the slide			T	the the thing that you are going to define would be say motor vehicles...	
08:30.1	S4 put down his 'hand'			T	now	
08:37.9	The teacher's typing icon on, and the second line of S5's answer was moved to the right side of the slide			T	we could probably all come up then	<p>Aliteration - using two or more words with the same first letter (short def)</p> <p>Aliteration - a term used in writing to help persuade a reader, by using the first letter in the first</p>  <h2>Skill practice 1: Defining</h2> <p>How would you define a key term from your specialism? What is the difference between a short definition and an extended one?</p> <p>Aliteration - using two or more words with the same first letter (short def)</p> <p>Aliteration - a term used in writing to help persuade a reader, by using the first letter in the first</p> 
08:39.4	T's typing icon off			T	with a	
08:42.3	S5's typing icon on and the third part of S5's answer was moved to the middle horizontally and below the second part of her answer			T	category that or different categories that go into so I'm I'm just if I use as an example	<p>Aliteration - using two or more words with the same first letter (short def)</p> <p>Aliteration - a term used in writing to help persuade a reader, by using the first letter in the first</p>  <h2>Skill practice 1: Defining</h2> <p>How would you define a key term from your specialism? What is the difference between a short definition and an extended one?</p> <p>Aliteration - using two or more words with the same first letter (short def)</p> <p>Aliteration - a term used in writing to help persuade a reader, by using the first letter in the first</p> 
08:43.8	S5's typing icon off					

Time	Technological Operations	Silence/Pause	New Turn	Speaker	Audio Transcription	Presentation Slide
08:51.9	S5's third part of her answer was deleted				if it and and this is sort of difficult tutor's thing to do so if I said with the em the the thing we are going to define is say motor vehicle, which kind of categories would screen to your mind with those almost like subgroups	<p>Aliteration - using two or more words with the same first letter (short def)</p> <p>Alliteration - a term used in writing to help persuade a reader, by using the first letter in the first you put across your point more forcefully (extended)</p> <h2>Skill practice 1: Defining</h2> <p>How would you define a key term from your specialism? What is the difference between a short definition and an extended one?</p> 
09:09.0		15.5s of silence				
09:24.5			NT	T	ok so if I this is terrible jumping into to I should have avoid it em with motor vehicles we could say that the lorries	
09:36.0	S5's typing icon on and "letter twice it helps to put the point across bbetter" showed in the middle of the slide horizontally and below the second part of her answer			T	cars vans that so those will be categories but someone else might come up with other categories something say like blue vehicles or red vehicles they are all categories but it's trying to to work out which ones are the source of next ones down I mean it doesn't always follow what I would think as a category wouldn't necessarily follow that someone else would agree is is that the way your question is going to?	<p>Aliteration - using two or more words with the same first letter (short def)</p> <p>Alliteration - a term used in writing to help persuade a reader, by using the first letter in the first you put across your point more forcefully (extended)</p> <h2>Skill practice 1: Defining</h2> <p>How would you define a key term from your specialism? What is the difference between a short definition and an extended one?</p> 
10:07.1	S4 raise his hand					<p>S4's answer on the slide:</p> <p>Line 1: Alliteration-using two or more words with the same first letter(short def)</p> <p>Line 2: Alliteration- a term used in writing to help persuade a reader, by using the first letter in the first using the first letter in the first</p> <p>Line 3: you put across your point more forcefully (extended)</p>
10:07.3						
10:10.6	T's mic off					
10:11.0	S4's mic on	short pause		T	yeah sorry go on S4	
10:12.0		short pause	NT	S4	em yeah tha that's that's an answer to my question I mean would I mean in in answer to your em question would em would would something like transport be a be a cat category	<p>Aliteration - using two or more words with the same first letter (short def)</p> <p>Alliteration - a term used in writing to help persuade a reader, by using the first letter in the first you put across your point more forcefully (extended)</p> <h2>Skill practice 1: Defining</h2> <p>How would you define a key term from your specialism? What is the difference between a short definition and an extended one?</p> 
10:30.6		long pause (5.2s)				
10:33.0	S4's mic off					
10:35.0	T's mic on					
10:35.8			NT	T	yes it yes em transport could be yes it it could be em pretty much anything you want it to be so long as in some way it it's connected with the item that you're defining	
62 10:43.9	S4 put up his hand			T		

Extract 4: Critical Incident 4: Making Connections

Time	Technological Operations	Silence/Pause	New Turn	Speaker	Audio Transcription	Presentation Slide
10:49.4						S4's answer on the slide:
10:59.8	S2 turned on his video camera	16.7s of silence				Line 1: Alliteration-using two or more words with the same first letter(short def)
11:02.3	S2 turned off his video camera but his mic has been always on					Line 2: Alliteration- a term used in writing to help persuade a reader, by using the first letter in the first
11:06.1			NT	T	So you've so you've got that there em then if I take it down to the if you like the next next level so if I said motor vehicle car the thing that makes it if you like different from other other motor vehicles is that it's smaller em it doesn't you know it's not designed to carry goods it's designed to carry people and that would be what makes it different to say a van or a lorry is that make does that: make sense?	Line 3: you put across your point more forcefully (extended)
11:44.2		short pause				
11:44.6	T's mic off					
11:46.8	S2's mic has been always open		NT	S2	yes it does yeah	
11:47.9		short pause				
11:50.2	S4's mic on		NT	S4	yes that make sense thanks Alex	
11:52.2		short pause				
11:54.4	T's mic on					
11:55.8	S4's mic off					
11:56.4			NT	T	ok so..long as you an answer the question though (not sure?) okay so if you like coming back to here som someone's written up there alliteration a term used in writing to help persuade a reader by using the first letter yeah † okay yes † that could be † so alliteration is using item tha that's being defined then the category is a term used in writing to help persuade the reader † yes † it could be yeah † definitely † and then what makes it different is by using first letter in the first .. okay first letter in each word you you put across your point more forcefully yes † yeah † yeah † tha that that would follow if you like the the definition that we use for a definition sorry that doesn't quite make	
12:44.9	S5 smiley			T	T laughing at himself] sense but it's yeah ok so...	
12:49.9	S5's smiley off			T	what I'll do I will go on to the next slide ...	

Alliteration - using two or more words with the same first letter (short def)
 you put across your point more forcefully (extended)



Skill practice 1: Defining



How would you define a key term from your specialism?
 What is the difference between a short definition and an extended one?

4.2.3 Critical Incident 3: Multimodal Challenges

Extract 3 and Extract 4 correspond to critical incident 3 and 4 respectively, but both of them demonstrate the challenges brought by the multimodal nature of the online audio-graphic conferencing classroom. While Extract 3 illustrates how two online students were communicating with the online tutor simultaneously using different modes, Extract 4 shows how the online tutor managed to deal with this situation successfully. The following section (4.2.3.1) first presents a statistical analysis of the multimodal situation (from 06:59.9 to 12:49.9) to illustrate the multimodal challenges based on both Extract 3 and 4 as a whole. And then multimodal discourse analysis will be used to further analyse critical incident 3 (in 4.2.3.2) and critical incident 4 in (4.2.4) separately.

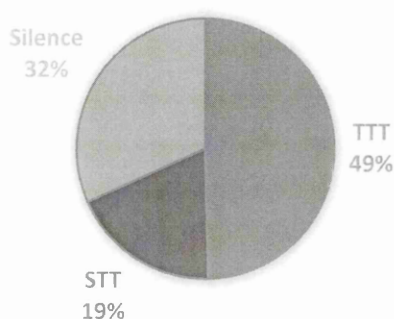
4.2.3.1 Multimodal Challenges

In a completely online audio conferencing classroom, what are the multimodal challenges for online tutors? Perhaps the following quantitative data could demonstrate how many things have been going on in this 6-minute-50-second tutorial (from 06:59.9 to 12:49.9). Audio interaction and written interaction are the main modes used during this tutorial, but there was also a technical failure in the tutor's audio channel and a faulty operation by one student, which posed more challenges for the online tutor. Further details and statistics are presented below.

Oral Interaction

In terms of oral interaction through audio, this analysis focuses on three perspectives, including the control of mics, the turns of talk, and the proportion of

talks and silences. Overall, there were 17 instances of turning microphones on and off, 9 of which were done by the online tutor while 8 were contributed by a student S4. The purpose of turning microphones on and off was to give clear technological indications for turn taking in the oral conversation between the online tutor and S4. Out of 14 new turns of talk, 8 of them were initiated by the online tutor; S4 took 5 turns and one turn was from S2, whose microphone had always been on throughout the whole tutorial.



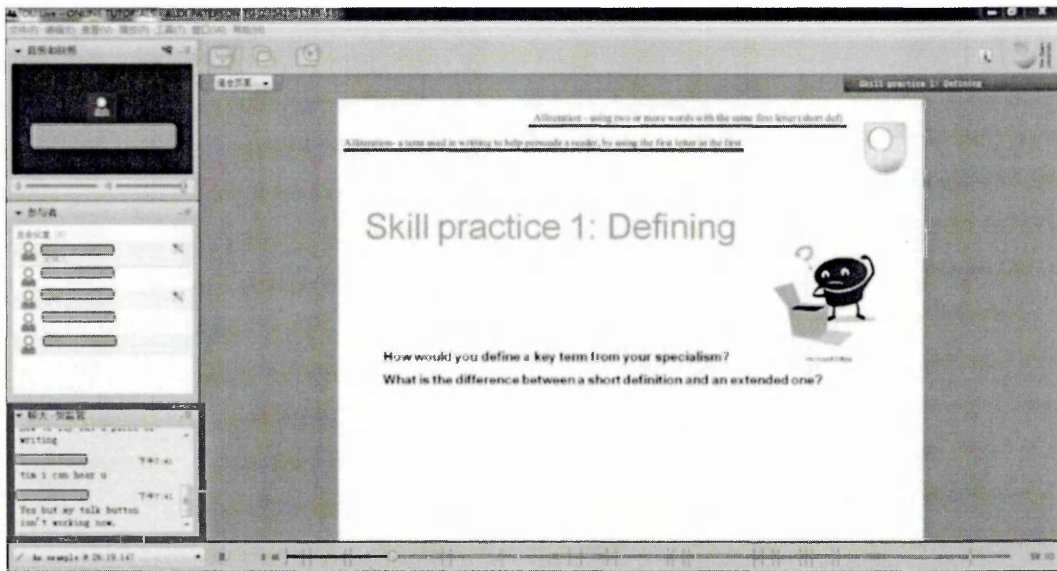
Graph 6: Constitution of Oral Interaction

The pie chart above (Graph 6) shows the percentage of teacher talking time (TTT), student talking time (STT) and silence. In this short piece of tutorial, the online tutor was talking almost 50% of time, but students also contributed 19% of talking time. It should also be noted that almost one third of the time was spent in silence. According to the multimodal transcription, there were several long silences when the online tutor and students were possibly thinking about some questions and a number of short pauses during which the online tutor and S4 turned on and off their microphones and exchanged turns.

Written Interaction

Another major form of classroom interaction afforded by the audio-conferencing

system (Graph 7) is written interaction, which consists of text chat messages in the bottom left hand corner of the screen (as shown in the square) and writing on the whiteboard or slide (as underlined below). All students' names are covered for anonymity. In this 6-minute-50-seconds tutorial, there were two text chat messages, one from the online tutor and the other from a student. As for written interaction on slide/whiteboard, 9 technical operations were carried out on the slide/whiteboard, including 4 instances of typing, 3 of moving answers, 1 deletion and 1 with no visible movement. Most of the written interaction on the slide was contributed by S5, except for one movement by the tutor, details of which will be presented in Section 4.2.3.2.



Graph 7: Written Interactions in OU Live in L185-13J

Technical Issues and a Faulty Operation

In addition to spoken and written interaction with students, the online tutor also needs to deal with technological issues. In the recording selected for analysis, two text messages appeared during the technological failure (from 06:37.3 to 07:02.6)

in the tutor's audio channel. One was from S5 to confirm to S4 that S5 could hear S4, and the other was from the teacher to inform S4 of the tutor's current talk button issue. When there was technical problem in the audio channel, both the online tutor and students shifted to an alternative mode, text chat, to continue their interaction. This is a good example which shows both students' and the tutor's competence of dealing with constraints and possibilities of the medium as defined by Hampel and Stickler (2005).

It is also worth mentioning that there was a possible faulty operation from 10:59.8 to 11:02.3 when S2 mistakenly turned on his video camera during the oral conversation between the online tutor and S4. It was believed to be a faulty operation because S2 turned off his video camera just 2.5 seconds after turning it on. When asked whether S2's action caused any distraction, the online tutor answered '*not a great deal*', but he then added,

I hope there is nothing going on in the background that causes embarrassment... so I am conscious that I might need to say something to avoid an embarrassing distraction...

It can be seen from this example that online teachers also may face some problems brought by certain students' faulty operation or interruption.

The above quantitative data has demonstrated the considerable amount of interactions and issues the online tutor had to face in 6 minutes and 50 seconds. Not only do online teachers need to be competent to interact with many students through different modes, but also they are in charge of managing the online classroom and dealing with technical problems which might occur at any time in

a tutorial. What skills/competences are needed for online teachers to handle all these multimodal challenges? Section 4.2.3.2 and Section 4.2.4 will offer some answers to this question through multimodal discourse analysis.

4.2.3.2 Critical Incident 3: A Multimodal Situation

This part of analysis is mainly based on Extract 3. The online tutor first presented two questions on the slide for students to think about: (a) how would you define a key term in your specialism; and (b) what is the difference between a short definition and an extended one? After a silence, one student (S4) raised their hand and asked two questions concerning how to give a definition (from 07:14.5 to 08:03.3). As S4 was asking questions through the audio channel, another student (S5) started typing their answer to the first question on the slide/whiteboard at 07:08.9 by giving a short definition for the term 'alliteration'. While the online tutor and S4 were discussing S4's questions orally, S5 was constantly working on their answer from 07:08.9 to 09:36.0. S5 edited their answer on the slide 8 times and each time the latest change is underlined in the multimodal transcription. This is the first part of the multimodal episode.

An important moment in this episode occurred at 08:37.9 when the tutor moved the second line of S5's answer to the top left hand corner so that the rest of S5's answers would not be out of the right hand margin of the slide/whiteboard. More importantly, through this quick technical operation, the online tutor showed S5 that he was aware of their written interaction on the slide, as he recalled:

What was happening there was that I was so focused on S4's question and I

was watching what was going on there. That [moving S5's answer] would have been part of my process of dealing with these two different things. The other thing that would have been in my mind was that if I move it, then I am at least showing that I am aware of it.

Skills

However, the online tutor was critical about this movement and honestly admitted that he has found a better way of dealing with such multimodal situation:

What I should have done was to acknowledge the fact that S5 had typed on there and I would have said "ok, I can see that someone is typing in there and I will come back to you after I deal with S4's question", which in hindsight is what I should have done and what I would probably do now.

The online tutor explained that in this way he could then completely concentrate on S4's questions first instead of multitasking.

And then, having said that I would just ignore it and I will put that out of mind until I deal with S4's question. My answer to S4 would have been more succinct because I wouldn't have been mentally juggling two things at the same time. I know I as an individual tend to focus on one task at a time, I deal with one task and then I move on to the next one. I don't find it easy to deal with different tasks at the same time.

The above extract demonstrates that the online tutor has reflected on his online tutorials and managed to find a new way of dealing with such multimodal situations, one which is more suitable for his personal teaching and thinking style. This conform to the top skill/competence 'own style' in the Skills Pyramid by Hampel and Stickler (2005).

Implications

In a traditional classroom, if one student is asking or answering a question while another student raises up his/her hand, an experienced teacher can look at him/her with a confirming nod and an encouraging smile, and then the teacher can deal with students' questions one by one. Similarly, in online classrooms, multimodality does not mean that teachers have to interact with several students in different modes simultaneously. This example shows that multimodality in the audio-graphic classroom does require some multitasking skill from online teachers. But here the multitasking skill means that an online teacher needs to be attentive to students' interaction in all possible modes, and let students know that the teacher sees their intention for interaction and assure students that they will receive the teacher's attention soon, just like a nod in a face-to-face classroom. As long as this is done, online teachers can then fully focus on the current or the most urgent problem first and solve one problem at a time.

4.2.4 Critical Incident 4: Making Connections

The following analysis of critical incident four is based on Extract 4 with a special focus on the online tutor's feedback for S5, as is shown in the transcription from 11:56.4 to the end of this episode. After the online tutor used the example of 'motor vehicles' to answer S4's questions about what was meant by which category and what makes the term different from other things in a definition, S4 was satisfied with the tutor's answer and expressed their appreciation. Then the online tutor consciously moved to S5's answer on the slide/whiteboard. He first read out loud

S5's answer and offered positive comments. However, he did not stop there. The tutor then used S5's answer as an example to elaborate on S4's question, just as he explained to S4 with the 'vehicle car' example. This is another critical incident in the multimodal episode because the online tutor managed to make a connection between S4's question and S5's answer. The following analysis of this critical incident will demonstrate that the online tutor was able to make connections between ideas, motivate students, and understands how students learn in the multimodal online classroom.

Roles

In both traditional and online classrooms, a common way to give students feedback is to repeat students' answers and give some comments, and experienced teachers including this online tutor, make connections between different students' questions and answers. This conforms to the pedagogical role of 'weaving together various discussion threads' in Berge's model (Rohfeld & Hiemstra, 1995, p.91; as cited in Berge, 2008). Moreover, the online tutor wanted to encourage S5 by using S5's answer as an example, as he recalled:

What I wanted to do there and this I do remember very clearly is that having spent so much time on S4's question, what I wanted to do was to show S5's answer was equally valuable, equally important.

It can be seen that in the transcription at 12:44.9 S5 posted a smiley, which probably expressed that S5 was happy to see their answer was used by the online tutor. This example demonstrates that the online tutor performed his motivational role successfully and received students' appreciation. In an online classroom where students cannot see the teacher's facial expressions and gestures, an easy way for

online teachers to motivate students is through teacher talk, which could be positive comments, or making use of students' answers, as this online tutor did here. Anyway, although online teachers' motivational role was not emphasized by Berge, it should be admitted that it is important for teachers to motivate students in all kinds of teaching environments.

Implications

Another reason for the online tutor to make such a connection was that he knew when S5 was typing and editing their answer on the slide, it was highly likely that S5 was so focused on their own answer that S4 did not pay full attention to the discussion between S4 and the online tutor. So by using S5's example to again answer S4's question, the online tutor also gave a chance for S5 to know what was being discussed and what might have been missed. In the interview, the online tutor explained:

...if someone is talking and someone is typing, then what happens is that we focus far more on what we are writing than what we are hearing because writing always involve doing and thinking.

It can be seen from the quotation above that the online tutor understands how students think and learn in a multimodal online classroom. A good online teacher not only needs to know how to teach online but also needs to understand how students learn online in order to improve students' online learning experience and deliver online tutorials more effectively. The same thing would happen in a traditional classroom as well when a student was taking notes and misses what the teacher was talking about. But the difference is that a teacher in a face-to-face classroom could see students' facial expression and tell if students are following

him/her to decide if certain study points need to be repeated and re-emphasized. However, in an online classroom, while a teacher cannot see students' face, online teachers may need to make a reasonable assumption based on students' behavior and their understanding of how students learn online.

This chapter has adopted a multimodal discourse analysis approach to analyzing the online tutor's skills and roles in L185-13J through four critical incidents including the change of presentation slides, the use of silences, the multimodal challenges and making connections. Some basic statistics were also used to demonstrate the multimodal challenges the online tutor faced in a short piece of tutorial. In addition, transcriptions from the video-stimulated recall interview were also cited to reveal the online tutor's intentions and considerations for certain acts as well as his comments and reflections on the chosen piece of online tutorial.

Chapter 5: Discussion

5.1 Differences between Online and Face-to-face Classrooms

Research Question1: Why is teaching online in an audio-graphic conferencing classroom different from teaching in a traditional face-to-face classroom?

Through analysing the multimodal transcription of four critical incidents in an online tutorial, this study has demonstrated three major differences between language teaching in face-to-face and online classrooms.

First, online teachers and students do not share the same computer screen and online teachers cannot see what is happening on students' computer screens. So online language teachers need to be constantly aware of their technical role and check if there are any technical problems with students and if all students are 'on the same page' as their teachers. Second, since in an audio-graphic conferencing classroom, students and teacher usually cannot see each other, there is a lack of non-verbal cues, including eye contacts, facial expressions, and gestures and so on. This requires teachers to give very clear instructions and be explicit about what they are doing in an online classroom (White, et al., 2005). Furthermore, the lack of non-verbal cues also poses challenges for turn taking in oral interactions. Therefore, as suggested by Hampel and Stickler (2005), tutors could agree on a 'netiquette' for the virtual classroom with students and encourage them to follow it (p.319). Another major difference is the multimodality of an online classroom which could accommodate two or more students to interact with an online teacher

simultaneously, as was shown in critical incident 3. This requires online language teachers to be attentive students' movements. White et al. (2005) report a similar finding that students consider being attentive as an important attribute for good online language teachers.

5.2 Online Teacher Skills

Research Question 2: What specific skills and competencies has the online tutor demonstrated in his/her online tutorials?

As was discussed in the data analysis chapter, the online tutor has demonstrated most of the skills/competencies in Hampel and Stickler's (2005) Skills Pyramid except for 'facilitating communicative competence' (p. 317), which is not suitable for this EAP module. For example, in the video-stimulated recall interview, the online tutor discussed how many silences he uses in an online tutorial and how long the silences should be. This shows that the online tutor has formed his personal style of teaching online, which is the top level of skill in the Skills Pyramid (Hampel & Stickler, 2005). Based on the multimodal analysis and the online teacher's interview, I will elaborate on two points in relation to Hampel and Stickler's (2005) Skills Pyramid.

First, I propose to add 'understanding the various possibilities behind certain technological indications' to their category of 'dealing with constraints and possibilities of the medium' in Hampel and Stickler's (2005) Skills Pyramid. In the second silence in critical incident 2, I discussed three possible reasons why

students show no technical sign of interaction after a long silence; similarly, in section 4.2.2.3, I presented three possible situations behind a ‘typing’ icon. These examples illustrate that in an online audio-graphic conferencing classroom, teachers cannot take the face value of students’ technological status. No raising hands might not necessarily mean no intention for interaction; and a typing icon does not guarantee there will be written interaction. Online teachers need to understand all these possibilities behind certain technical indications, and make reasonable choices based on the specific context, such as students’ proficiency, the importance of the study point and the teacher’s own preference and so on.

Another suggestion is to add ‘knowing students’ individual differences and preferred mode of learning’ to the ‘online socialization’ skill in Hampel and Stickler’s (2005) Skills Pyramid. During the video-stimulated recall interview, the online teacher repeatedly emphasised the importance of students’ individual differences and their preferred learning styles. As he said, ‘*no group of students are the same*’. Some students are highly motivated to engage in oral interactions, some students prefer typing text messages. It is recommended that online teachers should respect students’ individual differences, adapt their classroom activities according to students’ preferences and gradually encourage students to participate in interactions, rather than forcing students to speak when they do not want to. Knowing students’ individual differences and preferred learning styles could help online teachers to organise interactions effectively and make students feel comfortable and less anxious in audio-graphic conferencing classrooms, which belongs to the skill of online socialisation.

5.3 Online Teacher Roles

Research Question 3: How did the online tutor perform his pedagogical role and technological role in the audio-graphic conferencing classroom?

In all the four chosen critical incidents, the online tutor performed both pedagogical role and technological role simultaneously. The technological role deeply embedded in the whole tutorial, and it helps the online tutor to perform his pedagogical role smoothly. As Hubbard and Levy (2006) argue, good online teachers should be able to integrate technology into the teaching and learning process appropriately and effectively. Based on the multimodal discourse analysis, two suggestions can be made to develop Berge's (1995) model for online instructors.

As the online tutor commented, in online learning environments, silence does not mean there is no learning going on because students need some quiet time to think and learn by themselves before interacting with others. Similarly, Stickler et al. (2007) also argue that 'silences are not empty...the absence of communication, silence, can be very expressive in itself'. Therefore, my suggestion is to add 'using silences properly to provoke students' independent thinking and learning' into the definition of pedagogical role in Berge's (1995) model.

The other suggestion is to add 'setting agreements with students about the hidden meanings for certain technological indications' to the technical role in Berge's (1995) model. It can be seen from the second critical incident when the online tutor

was expecting a student's confirmation but the student did not reply to the teacher that online students also need to develop their ability to understand their online teachers' indication. Setting agreements with students could make the interaction between students and online teachers more smoothly and effectively.

5.4 Implications for Teacher Training

Based on the findings above, it is suggested that peer observation can be used for beginner online language teachers training programmes. Specifically, online teachers could observe and even participate in classroom interactions in their peers' online language classes. And then the observer and the one who has been observed can discuss what is good and what can be improved in the observed class. Then they can exchange position and repeat the above process. Peer observation puts online language teachers in the same learning environment as their students, which would have them to understand the how learning happens in online learning environments and motivates them to develop new skills specific for online teaching.

Chapter 6: Conclusion

In this study, I conducted a multimodal discourse analysis on four selected critical incidents in an audio-graphic conferencing classroom based on multimodal transcriptions and data from a video-stimulated recall interview and a follow-up email interview. The study identifies three differences between teaching online and in face-to-face classrooms, analyses the skills and roles online teachers need to develop, and makes two suggestions to the theoretical frameworks by Berge (1995) and Hampel and Stickler (2005).

The current study is limited by the chosen four critical incidents in a particular EAP tutorial. Therefore, the findings lack generalizability in other online learning contexts. For example, in classrooms in China, where there are usually more than a hundred students listening to one online language teacher, oral interaction might not be possible. Further research needs to be done in different cultural and educational contexts to explore new skills and roles for online language teachers.

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