Sociocultural Pedagogy and The Use of Digital Video in Higher Education

Thesis

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Abstract

This study considers how digital video can be used to support a sociocultural approach to teaching and learning in higher education (HE). While the existing literature focusses mostly on video as content, this study considers video production by students, applying sociocultural theory to this area for the first time.

The study identifies eleven themes that represent a practical pedagogy informed by sociocultural theory. A model is created to assess the use of video in HE and the assumptions about knowledge and learning behind the approaches taken. From this a divide between the use of video for knowledge transfer and the use of video for knowledge creation is identified. The study focusses on the latter of these.

A qualitative approach is adopted, utilising documentary, interview and observational data, using thematic analysis (Braun and Clarke, 2006) and the critical incident technique (Flanagan, 1954) to consider the pedagogy as specified, enacted and experienced (Nind et al., 2016) for four groups of students and educators involved in assessed video production activities at two HE institutions. The focus on observed student activity in video production is unique to this study.

The study finds that, while not always acknowledged as such, sociocultural approaches inform or are apparent in all of the activities studied. Video production supports a participative and situated approach to pedagogy and encourages collaboration and reflection. Student agency and creativity are dependent on the level and nature of scaffolding provided and, thus, the extent to which the activity is teacher led or student centred.

The importance of the process of video production to learning is a key finding as is the recommendation that assessments be designed to support learning throughout the activity and not just focussed on the final output. The study concludes with a comprehensive set of recommendations for practitioners designing video production activities.

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Chapter 1 Introduction

At the time of submission of this thesis (May 2021) the role of digital video in higher education (HE) is more prominent than ever. Since March 2020, academics have found themselves as the producers, directors and, sometimes reluctant, stars of home-produced videos as part of the move to remote teaching that has replaced face-to-face contact in response to the COVID-19 pandemic. Academics have been 'assisted' in this work by advice in the teaching literature, the HE press and the media regarding the desirability, effectiveness and structure of educational video (see, for example, Lambert 2020; Nordmann et al. 2020; Thomson and Gribble 2020).

Although the work reported here precedes the COVID-19 pandemic, many of the issues considered in the early parts of the thesis are recognizable in the debates and discussions that have arisen around the use of the video during this period. Where the thesis advances this debate, and where it offers a unique contribution to practice, is in moving on from considering video as a presentation medium, where content is delivered to students, to a view of student-produced video as part of a participative, situated pedagogy based on sociocultural theory.

This chapter will begin with a personal reflexive account of the origins of the research, written in the first-person, before moving back to a more formal, third-person style to introduce the thesis.

1.1 Background to the study

In 2011, I was coming to the end of studying part time for a Masters in Education with The Open University (OU). The first two modules in the programme had been heavily practical and focused on my day-to-day work as a Learning Technologist in a university, so when it came to choosing my final module I decided to try something different, something that was outside of my comfort zone and that would provide a new challenge. I selected a module that focused on education theory, with a particular emphasis on sociocultural approaches. This being the OU, the module included an excellent 350-page study guide accompanied by three books collecting together interesting and relevant book chapters and journal articles (Hall et al., 2008; Murphy and Hall, 2008; Murphy and

McCormack, 2008). My desire to be challenged was met and I soon became immersed in a world of theories of mind, knowledge, culture and identity.

As my knowledge grew, I began to be convinced by the arguments being made to support a sociocultural approach and what that implied for pedagogy, but, linking back to my previous studies, was not sure what it meant for practice. I began to suspect that my practice supported a view of knowledge and learning that emphasized what Sfard (1998) describes as an 'acquisition metaphor', where learning is similar to the accumulation of material goods and 'makes us think about the human mind as a container to be filled with certain materials and about the learner as becoming an owner of these materials' (p. 32) – with less focus on a 'participation metaphor' where learning occurs though student agency, active participation and collaboration within and influenced by the cultural context. At the time I was studying this material my main task at work was assisting in the roll out of a lecture recording system in the lecture theatres and classrooms of my institution. I was spending my time writing code that was more complex than my rudimentary programming skills left me comfortable with, but, again, was enjoying the challenge even as I was becoming slightly uncomfortable with the pedagogy behind the work I was supporting.

As I was required to complete a small-scale end-of-module project, I decided to focus on the pedagogy of lecture capture from a sociocultural perspective and how it was used in practice. For the project I conducted a small survey of students and gathered some data from the system logs about their viewing habits. In addition, I surveyed staff, who were just beginning to use the lecture recording system, on their views on how it might (or might not!) be used to support teaching and learning.

My findings were that both students and staff focused very much on the learning content, seeing the lecture recordings as an opportunity for students to review things they had already seen and to use them for revision before assignments. Analysis of the logs supported this view, with activity peaking in the run up to 'exam season'. My findings were that this technology (or, more correctly, the way it was used) supported a traditional, knowledge transfer and 'acquisition' view of learning and teaching.

This led me to contrast this approach with user-generated content (popularized around that time in the concept of Web 2.0) distributed via online video sharing platforms (YouTube being a relatively young 6 years old at that time). Were there any ways that the

relative ease of creating and sharing digital video could be used in teaching and learning that would support and be a practical example of a sociocultural approach to pedagogy?

At that time I was aware of some academics who were experimenting with students creating 'digital artefacts' as an alternative form of assessment. I was not aware of anyone having done an in-depth study into how students collaborated and worked on these projects and I was interested in finding out the pedagogical views of the practitioners, whether these represented a sociocultural approach and whether they were realized in how the activities were delivered and enacted. (Happily, I still haven't seen this work published!). And so the idea for this study was born.

1.2 About the study

This research study seeks to answer the question: How can digital video be used to support a sociocultural approach to teaching and learning in higher education (HE)?'

This is broken down into a number of sub-questions.

The study begins with a literature review in Chapter 2. This chapter is divided into two sections that focus on answering a number of questions:

- How is pedagogical theory represented in the learning technology literature?
- What are the elements of a sociocultural approach to pedagogy that might be visible in practice?
- What is the existing pedagogy behind the use of digital video in education?
- What uses of digital video are suggested by using a sociocultural approach?

In answering these questions the literature review identifies, both from theory and from reported practice, the use of student-produced media as supporting the practical elements of pedagogy influenced by a sociocultural approach. The review highlights a small number of reports of where student-produced media has been used for assessment and identifies a major tension in using this approach – the importance of *process* to learning through media creation and the difficulty in evidencing this learning in the final video output. This review brings together for the first time a practical way in which to assess the use of digital video in HE from a sociocultural perspective and identifies

important elements that could be used in practice to inform the design of video-creation activities.

Chapter 3 (Methodology) identifies the four activities that formed the subjects of the study and explains how the activities were selected as candidates. The activities involved students at two institutions producing digital videos as part of their module assessment and this chapter considers how the implications, assumptions and important features of a sociocultural pedagogy might best be investigated and analysed and how this led to the methodological decisions that were made. One of these was that the student experience was central to the study of the activity and this study is the first to apply a wholly qualitative approach, involving direct observation, video analysis and critical incident analysis to the study of student activity when producing media for assessment.

Chapter 4 and 5 present the findings of the study. They do this by analysing three different levels of pedagogy: in Chapter 4, pedagogy as specified and pedagogy as enacted, and, in Chapter 5, pedagogy as experienced (Nind et al., 2016; McCormack and Murphy, 2008). This is the first time that this framework has been applied to the use of student-produced media for assessment. Chapter 4 considers what the four activities studied tell us about the pedagogical approaches taken by the academics involved and how these align with the characteristics identified in Chapter 2 with Chapter 5 going on to consider the student experience and how their activity contributed to learning.

The discussion presented in Chapter 6 finds examples of the themes identified in Chapter 2 in all of the cases studied, but that they were not applied in a systematic and coherent way and that the pedagogical approaches of the academic participants was varied and unacknowledged. Analysis of the students' activity identifies tensions with the academics' approaches and highlights the issue, described in the literature, of the difficulty of assessing the 'hidden' learning not visible in the students' video outputs.

Chapter 7 (Conclusions) discusses the implications of the findings for the design and assessment of student-produced video projects and includes nine recommendations for practice. It also considers the contribution and limitations of the study and makes some recommendations for further research.

As Weller (2020) suggests, 'while the use of video in class, lecture, or course is common, its use as an assessment format is still fairly limited' (p. 89) and the literature is sparse. This study is an early contribution to this area. Its unique contribution is in applying a

specific theoretical lens to the activity studied, using a qualitative methodological approach that has not been applied to this topic and framing the student experience as central to the understanding of how learning is supported by the use of student-produced video.

Chapter 2 Literature review

2.1 Introduction

This thesis considers how the use of digital video in higher education (HE) can be expanded from a focus on video as a medium for content delivery into a view of video as part of a student-focused, participative and productive activity. It does so from a position informed by sociocultural approaches to pedagogy. While these are defined more fully below, in general terms they seek to move the focus of learning from a teacher-centred approach to a student-centred approach involving participation, collaboration and knowledge construction.

In order to consider how digital video can be used to support a sociocultural approach to pedagogy the following questions must first be answered:

- How is pedagogical theory represented in the learning technology literature?
- What are the elements of a sociocultural approach to pedagogy that might be visible in practice?
- What is the existing pedagogy behind the use of digital video in education?
- What uses of digital video are suggested by using a sociocultural approach?

This chapter, therefore, presents a literature review in two parts. Firstly, it considers the literature on sociocultural perspectives on pedagogy and identifies themes that will later be used to analyse approaches to pedagogy and practice. Secondly, it looks at the use of digital video in HE and what this tells us about the pedagogical approaches being used. This section is used to identify the gaps in practice that this study is intended to fill.

2.2 Sociocultural approaches to pedagogy

Before delving into sociocultural approaches into pedagogy it is important to establish why theory takes such a prominent role in this research. The following section considers the role of theory in learning technology research and practice to illustrate why it is foregrounded in this study.

2.2.1 Theory in learning technology research

A number of authors have described the 'missing' role of theory in much published research in learning technology. Gunn and Steel (2012), in a review of articles published in two leading learning technology journals (chosen as they 'represent leading professional societies and practitioner communities that aim to promote best practice in the field of learning technologies in higher education' (p. 2)), suggest that there is a tendency for 'research to make scant reference to theory or previous studies and to assume, with little or no evidence, that findings will generalize to other contexts. Such articles add no value to our theoretical understanding of learning with technology' (p. 6). Similarly, Bennett and Oliver (2011) criticize much research into learning technology for 'paying scant attention to theories that might be used to frame and inform research, and for producing shallow analyses that do little to inform the practice of education' (p. 179). They suggest that research has focused on 'practical implementation and design, largely driven by "common-sense" assumptions' (p. 179). This point is supported by the work of Bulfin et al (2013) who found that only approximately one-third of their respondents (who were researchers in educational technology and media) deliberately made use of theory in their research. Respondents highlighted concerns around a gap between theory and practice and again discussed the application of 'common sense'. Bulfin et al. conclude that 'many respondents' notion of what constitutes useful "theory" often related to specific ideas, concepts and frameworks that would not be considered to be theoretically grounded or particularly theoretically sophisticated' (p. 343).

Considering the role of theory in the conduct of research, Jones and Czerniewicz (2011) argue that 'coherent theoretical frameworks are needed to enable integration across the segmented clusters so that generalizations can be made, lessons learnt across multiple sites, and a community of researchers enabled to share a common language to build knowledge together' (p. 173). Building on these claims that educational research is 'under theorised', Hew et al. (2019) undertook an analysis of 503 papers published in the three educational technology journals with the highest impact factor. They looked for how explicitly theory was identified, how it was applied and how it was advanced. Their findings were that:

> *In the majority of cases, explicit engagement with theory was absent. Many studies either were wholly bereft of theories or made vague use of theory. Where theory was explicit, the articles were more likely to use*

> *theory to conceptualise the research, to inform the data collection or analysis process and to discuss the results. Very few articles reported findings that help us to learn something new about a particular theory. (p. 956)*

2.2.2 Theory in learning technology practice

Looking at how theory informs practice, Drumm (2019) interviewed practitioners at two universities about the role that theory played in their teaching with digital technology. Her results showed that explicitly recognized learning theories played a minor role in informing practice with only one (social constructivism) being acknowledged specifically by some participants. Practitioners instead took a 'blended' approach to pedagogy, with practice suggesting that they were implicitly employing more than one learning theory. For some respondents, the place of recognized theory was taken by 'folk pedagogies' based on personal experience, or 'pseudo theories', largely debunked concepts such as 'digital natives' or 'learning styles' (Kirschner and van Merriënboer, 2013; Jones et al., 2010). Drumm comments that 'the ease with which many of these educators spoke at length about their digital teaching practices with scant reference to theories of teaching or learning should not be taken as evidence of the irrelevance of theory to teaching practices' (p. 11).

These findings of the 'missing' evidence of theory in practice correspond with Kirkwood and Price's (2013) earlier findings from research into published case studies, presentations and reports on technology-enhanced learning (TEL) by practitioners. They found that 'few of the studies reviewed contained explicit statements about how teaching and learning had been conceptualized and reference to relevant theoretical ideas or models was uncommon' (p. 331). This led them to conclude that, for these studies, if conceptions of theory were considered they 'clearly were not felt to be sufficiently significant to communicate to the audience of practitioner and researcher peers' (p. 332) and that in reports of practice 'too often what is missing is an appreciation that teachers' underlying conceptions of teaching influence their general approach to teaching' (p. 336). In a finding that will recur later in this review, Kirkwood and Price found that:

> *one way of discerning the conception of learning implicit within a study was by considering the types of evidence collected. Most of the TEL projects that sought to replicate or supplement existing teaching*

> *practices employed test or course assignment scores to evidence learning gains. That is, a learning enhancement was interpreted as a quantitative change.* (p. 331)

Going back further, similar findings to those reported here were also of concern to Conole et al. (2004) who, in a work where they identified a number of models of learning, felt that there was a 'lack of application of models and theories by e-learning practitioners' and 'little evidence of how these models or theories are applied to effective pedagogically driven e-learning' (p. 18).

2.2.3 Implications for this study

The above suggests that theory is not 'missing' from learning technology research and practice, but that it is largely unacknowledged and assumed. These assumptions, which Nind et al. (2016) refer to as 'scripts', influence practice and so it is important that they are brought into view:

> *being able to examine the explicit and implicit theory underlying representations or scripts of pedagogy is important for the pedagogy researcher. The scripts available to us structure our activity and guide our actions. In the case of pedagogy… identifying what those scripts are requires consideration if we are to research how, for example, classroom interaction and behaviour are shaped, and how practitioners and learners are positioned.* (Nind et al., 2016, pp 16-17)

This research takes the opposite approach to that criticized above in that it seeks to summarize a particular theoretical approach, sociocultural theory, describe why it has been chosen as a focus and then to consider the pedagogy of the use of video from this perspective, including identifying pedagogical assumptions in the literature.

2.2.4 What are the elements of a sociocultural approach to pedagogy that might be visible in practice?

This section draws on the literature to identify themes that represent a view of pedagogy influenced by sociocultural theory. These themes are placed in a framework and the development of the framework is described. The framework is used in Chapters 4 and 5 to analyse the data collected in this study to identify whether and how these themes are present in practice.

2.2.4.1 The development of sociocultural approaches to teaching and learning

Murphy and Hall (2008) describe a sociocultural approach to learning as emphasizing 'the socially negotiated and embedded nature of meaning-making and how learners learn to use the cognitive tools of their cultural community through participation in social activity' (p. ix).

Sociocultural theory developed from the work of Lev Vygotsky, a teacher and psychologist working in the 1920s and 1930s in the Soviet Union. Vygotsky's emphasis on the interdependence of culture, society and the individual in teaching and learning forms the basis of an evolving theory that offers a number of perspectives that not only allow for the evaluation of practice, but also suggest how teaching and learning may be organized in ways that allow learners to move deeper into practice and understanding. As Vygotsky's most prominent work comprises material collected, edited and published after his death and is available to Western readers only in translation, the coherence and emphasis of his published work should be considered as contested (Daniels, 2001; Gillen, 2000) – it is more accurate, therefore, to consider him as influencing the subsequent development of sociocultural approaches rather than creating a fully formed theory. Wells argues that 'we should certainly read [Vygotsky's] texts and try to understand what he had to say; but, in appropriating his ideas and putting them to use, we should also be willing to transform those ideas so that they can be of greatest use to us in meeting the demands of our own situations' (Wells, 1999, p. 334). The following analysis, therefore, draws not only on the work of Vygotsky, but also on writers who have built upon his theoretical foundations or who have extended his work to other contexts, such as adult learning.

2.2.4.2 A note on terminology

The work of Vygotsky is often presented as part of the constructivist tradition of learning theory (for example, Harasim 2012; Aubrey and Riley 2016) where he introduced a 'focus on the social rather than the individual context of human cognitive development' (Harasim, 2012, p. 66) and influenced what is now known as social constructivism.

Recognizing that there is a great deal of overlap between social constructivist theories and sociocultural theories, McCormack and Murphy (2008) present them as part of a continuum where 'what is common to this view of learning is the role of others in creating and sharing meaning' (p. 5) (see Figure 2.1 below). Where the two theoretical approaches differ is in their view of 'learning as a process of participation in cultural

activity' (p. 5), with McCormack and Murphy suggesting that from a sociocultural perspective:

> *Meaning is created through participating in social activity. In this sense there is no individual notion of an idea or concept, but a distributed one. Rather than seeing learning as a process of transfer of knowledge from the knowledgeable to the less knowledgeable, we have engagement in culturally authentic activity.* (p. 5)

While this difference is nuanced, McCormack and Murphy believe that, at one extreme of the continuum, constructivist approaches still allow for a 'symbol-processing' view of learning (see below) and so prefer to use the term 'sociocultural' to emphasize the situated nature of learning. In practice many activities that are associated with a social constructivist approach ('active learning, learning-by doing, scaffolding learning and collaborative learning' (Harasim, 2012, p. 68)) are similar to those suggested by a sociocultural approach, but the emphasis on situated learning and participation identified below means that the term 'sociocultural' will be used to describe the pedagogical approach informing this project.

The use of the term 'sociocultural' here is also intended to be broad and inclusive of approaches that incorporate similar themes but where the emphasis may be different. Such approaches include dialogic inquiry, where 'curriculum is created emergently in the many modes of conversation through which teachers and students dialogically make sense of topics … through action, knowledge building and reflection' (Wells, 1999, p. 98), and cultural historical activity theory, where it is through 'genuine dialogue in the context of jointly undertaken activity' (Wells and Claxton, 2002, p. 14) and 'by learning to use … semiotic tools in discourse with others that humans appropriate the culture's dominant ways of thinking, reasoning and valuing' (Wells and Claxton, 2002, p. 4).

2.2.4.3 Why take a sociocultural approach?

As already stated, one of the drivers of this thesis was to consider how sociocultural theory could be represented in a particular form of practice. It is the epistemology of this theoretical approach, and the implications this has for practice, that led to this choice.

Adapted from McCormack and Murphy (2008), Figure 2.1 shows pedagogical approaches modelled as a continuum where the computational and cognitivist approaches discussed above are contrasted with a sociocultural approach:

> *At one end of the spectrum is the information-processing view, where the learner is a passive processor of information. But the most widely held view sees learning as a knowledge-construction process, i.e., learners make meaning from experiences. This places learners in an active role and problem-solving as a central process in knowledge construction'.* (McCormack and Murphy, 2008, p. 5)

Conceptions of the nature of knowledge, of whether there is an external 'objective' reality or whether it is culturally based, and of whether knowledge is individual or distributed determine where pedagogical theories sit on this continuum, with one end representing passive knowledge transfer and the other active, collaborative and situated practice. While, like most models, this represents a simplification of complex reality, it serves to highlight the different conceptions of mind and knowledge that led to this research being guided by a sociocultural approach.

Bruner (2009) describes 'two strikingly divergent conceptions of how mind works' (p. 159), the first being where 'mind is conceived as a computational device' (p. 159) and the second where 'mind is constituted by and realized in the use of human culture' (p. 159). As will be seen below, these differing views of mind are fundamental to conceptions of learning and thus strongly influence practice.

In line with Bruner's first conception, Harasim (2012) describes cognitivism as focussing on 'internal mental processes and … understanding how cognitive processes could promote effective learning' (p. 47). In a model of mind that has parallels with computer architecture, Sweller et al. (1998) and Kirschner et al. (2006), in highly cited and influential papers, present learning as a process of interaction between working memory and long-term memory and suggest that 'a major function of instruction is to allow learners to accumulate critical information in long-term memory' (Sweller et al 2019, p. 263). Kirschner et al. (2006) use this framing to suggest that 'direct, strong instructional guidance' (p. 83) is more effective than 'constructivist-based approaches'. In a conception that will be seen again below, effectiveness is judged by the learner's ability to recall information from long-term memory.

For this study, this view is considered to be too simplistic and to ignore Bruner's second conception. A sociocultural perspective:

> *requires a quite different conception of knowledge to that held by cognitivist or symbol-processing views of mind. In symbol processing, ''concepts" are objects to be internalized (stored in memory); in situated learning, 'the activity in which knowledge is developed and deployed is not separable from or ancillary to learning and cognition'. (McCormack and Murphy, 2008, p. 6, citing Brown et al., 1989, p. 32)*

Harasim (2012) suggests that the development of cognitive approaches 'proceeded from a premise of the predictability of human behaviour… it was assumed that if a certain stimulus resulted in a particular response or outcome, it would do so again and again' (p. 52). Rather than using this mechanistic formulation, Hmelo-Silver et al. (2007) suggest that a more nuanced approach is required that considers 'under what circumstances do … guided inquiry processes work, what kinds of valued practices do they promote, and what kinds of scaffolding are needed for different populations and learning goals' (p. 105). While cognitivism might focus on Sfard's (1998) acquisition metaphor, a sociocultural approach recognises the equal importance of her participation metaphor. Hmelo-Silver et al. (2007) also suggest that cognitivism offers a narrow definition of knowledge and learning and that a broader, less measurable, definition is required 'including not only learning content but also learning "softer skills" such as epistemic practices, self-directed learning and collaboration that are not measured on achievement tests but are important … in a knowledge society' (p 105).

In contrast to cognitivism, the epistemology of sociocultural theory addresses Bruner's second conception of mind and what this means about knowledge and how it informs practice. For Murphy (1999), in a sociocultural approach:

> *human knowledge and interaction are seen as inseparable from the world. Thus in this approach to cognition the focus is on the structures of the world and how they constrain and guide human behaviour.'* (p. ix)

As will be seen in Chapter 3, the focus on situation, activity and how structures influence practice are central to, and inform the model used for, the analysis presented here.

Figure 2.1 - The symbol processing to situated cognition continuum (adapted from McCormack and Murphy (2008, p. 8).

2.2.5 A framework for sociocultural pedagogy

Having considered the epistemology of sociocultural approaches, the following section presents a framework for assessing how this is embodied in practical pedagogy. This framework was developed by identifying themes from the literature of sociocultural theory, both from Vygotsky and from prominent subsequent theorists who built on his work, and places a 'narrative' on what these themes might mean in practice.

The details of the emergence of the framework are presented below, but, in summary, the concept is that the potential of the learner is the focus for teaching and assessment (captured in Vygotsky's concept of the zone of proximal development (ZPD)) and that this is realized through **scaffolding**. The learner's development takes place through **collaboration** and **active participation**. Active participation implies **agency** in the learner. Collaboration and action are mediated through the use of culturally defined **signs and tools.** Learning is **situated** in an authentic context where the learner participates in the collaborative use of appropriate signs and tools. Meaningful outputs are created through **reification**. Reification is not just a product but a creative process – **creativity** occurs through a combination of **imagination** and **reflection**.

2.2.5.1 Scaffolding

One of the concepts most identified with Vygotsky is his metaphor of the 'zone of proximal development' (ZPD). In describing the ZPD, Vygotsky contrasts the testing of a child's performance in tasks measured against norms, where we are measuring 'completed' development, with tests that show what the child can do with assistance, for example with leading questions from a teacher or in collaboration with others. Vygotsky (1978) defines the ZPD as 'the distance between the actual developmental level as determined by individual problem solving and the level of potential development as

determined through problem solving under adult guidance or in collaboration with more capable peers' (p. 86). He contends that 'what children can do with the assistance of others might be in some sense even more indicative of their mental development than what they can do alone' (p. 85).[1]

Applying the ZPD to the practice of teaching and learning, Vygotsky proposes that: 'an essential feature of learning is that it creates the zone of proximal development; that is, learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers' (p. 90).

The implication of the above is that effective learning requires a process of peer collaboration and interaction, but Vygotsky is unclear on the manner in which more experienced participants work with the less experienced. Subsequent writers have attempted to produce a broader definition of the ZPD. Moll (1990) suggests that Vygotsky's theories emphasize 'social activity and cultural practice as sources of thinking, the importance of mediation in human psychological functioning, the centrality of pedagogy in development, and the inseparability of the individual from the social' (p. 15). Daniels (2001) suggests that Vygotsky's work has a number of implications for teaching and learning:

> *The first important implication … is that teaching and assessment should be focused on the potential of the learner, rather than on a demonstrated level of achievement or understanding. The second is that teaching, or instruction, should create the possibilities for development, through the kind of active participation that characterises collaboration, that it should be socially negotiated and that it should entail transfer of control to the learner.* (p. 61)

This transfer of control from teacher to learner has been conceptualized through the idea of **scaffolding** where the teacher focusses the learner's 'attention on the task and keep[s] them motivated and working…. They also divide the task into simpler and more accessible

[1] Although much of Vygotsky's works focused on child development, the theoretical approaches that stem from it have been applied to adult learners. This is covered further in Section 2.2.6.

components directing [the learner's] attention to the essential and relevant features. … the scaffolding tutor demonstrates and models successful performance while keeping the task at a proper level of difficulty' (Diaz et al., 1990, p. 140).

Daniels (2001) identifies key features of scaffolding which include the recruitment of the learner into a 'culturally desirable activity beyond the child's current understanding or control', the evaluation of 'the learner's understanding and skill level and estimation of the amount of support required' and the notion that the 'support provided is gradually withdrawn as control over the task is transferred to the learner' (p. 114).

2.2.5.2 Agency

The transfer of control to the learner suggest that the concept of **agency** is central to a pedagogy based on sociocultural theory. Biesta and Tedder (2007) define agency as 'the ability to exert control over and give direction to one's life' (p. 135). In a wider context than education, they consider that agency is achieved where 'economic, cultural and social resources' (p. 136) are available and where people have the imagination to generate 'possible future trajectories of action' (p. 136) that allow them to formulate and achieve desired outcomes.

In educational theory, the sociocultural view emphasizes the importance of learners being able to act with agency – that is 'to intentionally make things happen by one's actions' (Bandura, 2001, p. 2). This emphasis on action corresponds with Bruner's (1996) view of the agentive mind as being 'proactive, problem-orientated, attentionally focused, selective, constructional and directed to ends' (p. 93).

A pedagogy emphasizing activity would suggest the passing of agency from the teacher to the student. Sfard (1998) describes two metaphors for teaching and learning – an 'acquisition metaphor', where we can think 'about the human mind as a container to be filled with certain materials and about the learner as becoming owner of this material' (p. 5); and a 'participation metaphor' where the emphasis is on learner activity and practice. A similar duality is presented by Daniels (2001) discussing Vygotsky's concept of *internalization*, where knowledge is transferred and the process is objectively measurable (the 'reproduction of culture' (p. 44)), and *externalization*, where meaning is interpreted and shaped by the learner (creativity and the 'creation of artefacts that may be used to transform culture' (p. 44)). Daniels highlights the difference between these models in terms of agency ('that the opposition of active versus passive role is central to the debate'

(p. 42)) and goes on to say that 'the emphasis on externalization is important as it brings perspective to concept formation which affirms the notion of active agency in learning and teaching' (p. 44). This link between agency, creation and learning is explored in Chapters 4 and 5.

As well as suggesting active participation, agency is not merely an individual characteristic, but instead is collaborative in nature – 'the agentive mind is not only active in nature, but it seeks out dialogue and discourse with other active minds. And it is through this dialogic, discursive process that we come to know the Other and his points of view' (Bruner 1996, p. 93). The complexities afforded by collaboration can also result in agency becoming a function of a group rather than an individual:

> *the whole of socially distributed cognition is greater than, or at least qualitatively different from, the sum of the individuals' cognitive processes that constitute it. There is no way to reduce the analysis of socially distributed cognition to a set of individual processes and, as a result a type of agency is attributed to the group rather than to the individual.* (Wertsch et al. 1993, p. 339)

The interplay of individual and collaborative elements means that there is a role for the use of mediational tools in the practice of agency. Wertsch et al. (1993) emphasize the importance of culturally produced tools as the means by which agency is enacted: 'the individual(s) involved certainly continues to bear the major responsibility for initiating and carrying out an action, but the possibilities for formulating certain problems, let alone the possibilities for following certain paths of action are shaped by the mediational means employed' (p. 342).

The mention here of the learner being responsible for instigating action suggests that agentive learners require skills in self-regulation. Bandura (1991) suggests that central to the exercise of agency are 'people's beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives' (p. 257) with beliefs about their own personal effectiveness influencing 'the choices they make, their aspirations, how much effort they mobilize in a given endeavor, how long they persevere in the face of difficulties and setbacks, whether their thought patterns are self-hindering or self-aiding' (p. 257). A review by Zimmerman and Moylan (2009) claims that there are 'significant positive correlations between the strength of students' self-efficacy beliefs

and their academic achievement' (p. 307) and that interventions that focus on self-efficacy 'produced not only gains in students' academic performance but also improvements in their strategic behavior and motivation' (p. 310).

2.2.5.3 Collaboration

The emphasis placed on collaboration when discussing agency, is also suggested by the concept of the ZPD. Continuing the theme of a pedagogy of participation rather than knowledge transfer, and echoing some of the emphasis of Wertsch, Daniels (2001) suggests that 'the focus of change within the ZPD should be on the creation, development and communication of meaning through the **collaborative use of mediational means** rather than on the transfer of skills from the more to less capable partner' (p. 60). Considering how this may be practically applied in context, Tudge (1990) focusses on Vygotsky's use of the phrase 'more competent peers' when describing the ZPD, and suggests that peer collaboration is an important and under-emphasized part of classroom activity and that the interactions involved deserve further consideration.

In introducing Vygotsky and the ZPD above, the two quotations from Vygotsky's work use the terms 'collaboration' and 'cooperation' synonymously. Later writers, acknowledging that these terms are used loosely in the literature, have drawn a distinction between the two, suggesting that they show different ways of conceptualizing working together. Dillenbourg et al. (1996) suggest that the difference between the two terms is in the 'division of labour' where in 'cooperation, partners split the work, solve sub-tasks individually and then assemble the partial results into the final output. In collaboration, partners do the work 'together'' (p. 8). They go on to consider three criteria to define collaborative activity: interactivity, synchronicity and, what they term 'negotiability'. Interactivity and synchronicity suggest that tasks must be done together (and, by implication at the same time) rather than divided into individual sub-tasks performed separately and asynchronously. The concept of 'negotiability' is that collaborative interactions are not based on hierarchy but rather 'one partner will not impose his view on the sole basis of his authority, but will – to some extent – argue for his standpoint, justify, negotiate, attempt to convince' (p. 9).

In defining collaboration in this way, Dillenbourg et al. contest that cooperation does take place in collaborative activity (for example 'some spontaneous division may occur even when two people do really work together, for instance one partner taking responsibility for the low levels aspects of the task while the other focuses on strategic aspects' (p. 8))

but that this is a 'horizontal' division, where layers depend on collaboration as opposed to the 'vertical' division of work into independent tasks characterized by 'cooperation'. Chapters 4 and 5 consider to what extent the activities studied here show collaboration and/or cooperation.

2.2.5.4 Signs and tools

Vygotsky proposed that both interpersonal and intrapersonal communication and action are **mediated by signs and tools** (or culturally produced artefacts). He illustrates this by describing how human perception of an object goes beyond simple colour and shape to give the object sense and meaning – 'I do not merely see something round and black with two hands; I see a clock' (Vygotsky, 1978, p. 33). He suggests that this represents a difference between elementary psychological processes (which are of biological origin) and higher psychological functioning (which are of sociocultural origin), the latter being identified by the use of tools and signs, a tool being something that extends our natural abilities and a sign being a symbol of something else. Sign use is a sociocultural phenomenon as the meaning is given and understood by other people – 'the mediational means are what might be termed the "carriers" of sociocultural patterns and knowledge' (Wertsch, 1994, p. 204).

Wertsch (1994) argues that, while in Vygotsky's work discussion of mediation was 'played out primarily in connection with language' (p. 204), he did identify a number of mediational tools including 'language; various systems for counting; mnemonic techniques; algebraic symbol systems; works of art; writing; schemes; diagrams, maps and mechanical drawings; all sorts of conventional signs, and so on' (Vygotsky, 1997, p. 85). Wertsch (1994) argues that 'Vygotsky's analysis of mediation is … the key in his approach to understanding how human mental functioning is tied to cultural, institutional and historical settings since these settings shape and provide cultural tools that are mastered by individuals' (p. 204). He goes on, to suggest that, although Vygotsky 'tended to focus on the process of mastering existing mediational means and said relatively little about how the active employment of those means generates and transforms meanings and cultural tools and how it gives rise to new ones', a 'Vygotsky-inspired' approach consistent with his wider work would emphasis 'mediated action' where, rather than the learner 'mastering an existing meaning system', they 'play an active role in using and transforming cultural tools and their associated meaning systems' (p. 204). Wertsch goes on to link this idea with a conception of agency as 'individuals operating with mediational

means' (p. 205) but highlights the tension between 'the mediational means as provided by the sociocultural setting and the unique contextualized use of these means in carrying out particular, concrete actions' (p. 205). This agentive action means that 'no two concrete uses of a tool are completely identical. Each involves some degree of uniqueness, and each instantiation therefore involves some degree of variation and potential for innovation and creativity' (p. 206).

2.2.5.5 Active participation and situated learning

A sociocultural perspective allows learning to be viewed as a process of identity formation with teaching being the practice of enabling students to participate in activities that allow for a particular identity to develop and for students to move in to a particular 'community'. Drawing similar conclusions to Daniels about the role of **active participation** (see 'Scaffolding' above), Wenger (1998), for example, describes the formation of identity through participation, defining participation as 'a process of taking part and … the relations with others that reflect this process' (p. 55). Wenger emphasizes the active nature of participation and the fact that it involves social communities – it is through communication and participation with others, or mutuality, that meaning is negotiated. By emphasizing the mutuality involved in relating to others, Wenger sees participation as a source of identity: 'a defining characteristic of participation is the possibility of developing an "identity of participation," this is, an identity constituted through relations of participation' (Wenger 1998, p. 56) and Sfard (1998) emphasizes the importance of action and identity involved in the concept of participation by describing it as 'almost synonymous with "taking part" and "being a part"' (p. 6). The link between identity, participation and social practice is further made by Lave and Wenger (1991):

> *Activities, tasks, functions, and understandings do not exist in isolation; they are part of broader systems of relations in which they have meaning. These systems of relations arise out of and are reproduced and developed within social communities, which are in part systems of relations among persons. The person is defined by as well as defines these relations. Learning thus implies becoming a different person with respect to the possibilities enabled by these systems of relations. To ignore this aspect of leaming is to overlook the fact that learning involves the construction of identities.* (p. 53)

Lave and Wenger (1991) in describing the concept of 'legitimate peripheral participation', place importance on **situated learning** where the emphasis is on 'comprehensive understanding involving the whole person rather than 'receiving' a body of factual knowledge about the world: *on activity in and with the world*; and on the view that agent, activity, and the world mutually constitute each other' (p. 33) [emphasis added]. Here 'learning is not merely situated in practice – as if it were some independently reifiable process that just happened to be located somewhere; learning is an integral part of generative social practice in the lived-in world' (p. 35). They contrast the epistemological views, and implications for pedagogy, implied by cognitive views of learning and this view of learning as a social practice. For the former:

> *Painting a picture of the person as a primarily "cognitive" entity tends to promote a nonpersonal view of knowledge, skills, tasks, activities and learning. As a consequence, both theoretical analyses and instructional prescriptions tend to be driven by reference to reified "knowledge domains", and by constraints imposed by the general requirements of universal learning mechanisms understood in terms of acquisition and assimilation.* (p. 52)

whereas for the latter:

> *participation in social practice ...suggests a very explicit focus on the person, but as person-in-the-world, as member of a sociocultural community. This focus promotes a view of knowing as activity by specific people in specific circumstances.* (p. 52)

Legitimate peripheral participation is a social practice where learners may show different levels of participation, with differing participatory relationships, than more experienced or confident colleagues. As the learner develops, their participation and relationships change along with their identity as a practitioner. Wells (1999) identifies similar concepts in the work of Vygotsky, stating that:

> *"The less mature are assisted to appropriate the culture's existing resources and guided as they use and transform them for the solution of the problems that they consider important. In the place of competitive individualism his theory proposes a collaborative community in which,*

with the teacher as leader, all participants learn with and from each other as they engage in dialogic enquiry." (p. xii)

2.2.5.6 Reification

In addition to theorizing how Vygotsky's ideas might influence practice in teaching and learning, a number of writers have developed themes that draw upon and develop his discussions of tools and signs. Wenger, for example, sees participation as one part of a duality in the process of negotiating meaning, the other part being **reification**, or 'the conversion of an abstraction into a thing' (adapted from Allen (1990)). For Wenger, reification is 'the process of giving form to our experience by producing objects that congeal this experience into "thingness"' where we 'create points of focus around which negotiation of meaning becomes organized' (Wenger 1998, p. 58). He exemplifies this by stating that 'writing down a law, creating a procedure, or producing a tool is a similar process. A certain understanding is given form. This form then becomes a focus for the negotiation of meaning…' (Wenger 1998, pp 58-59). Reifications represent experience and practice in fixed forms – they are the 'abstractions, tools, symbols, stories, terms and concepts' of communities of practice (Wenger 1998, p. 59) and can include 'making, designing, representing, naming, encoding, and describing, as well as perceiving, interpreting, using, reusing, decoding, and recasting' (Wenger 1998, p. 59).

Wenger, in an interview with Binder (1996), states that

'reification is precisely viewing the artefact not just as a physical object but as a process of attributing meaning through time and space. If an artefact travels across boundaries from one community to another, the process of reification by which it becomes part of a practice changes substantially across those boundaries. Therefore reification and the crossing of boundaries are really essential aspects of how an artefact gains its meaning.' (Binder 1996, p. 101)

This process of using, extending and modifying tools shows that meaning is defined by the use of reifications as well as by participation. Applying these principles to classroom activities, Wells (1999) argues that:

mastering the discourses in which knowledge is constructed, put to use, and critiqued and modified, is a central part of an apprenticeship into each of the disciplines. (p. xvii)

2.2.5.7 Creativity, imagination and reflection

This focus of reification on the production and modification of objects and artefacts introduces the importance of **creativity** in the sociocultural approach. Vygotsky describes human activity that 'combines and creatively reworks elements of past experience and uses them to generate new propositions and new behavior…. It is precisely human creative activity that makes the human being a creature oriented toward the future, creating the future and thus altering his own present' (Vygotsky 2004, p. 9). Creativity is not confined to great cultural or scientific advances but is an everyday activity:

> *creativity is present… whenever a person imagines, combines, alters, and creates something new, no matter how small a drop in the bucket this new thing appears compared to the works of geniuses. When we consider the phenomenon of collective creativity, which combines all these drops of individual creativity that frequently are insignificant in themselves, we readily understand what an enormous percentage of what has been created by humanity is a product of the anonymous collective creative work of unknown inventors.* (Vygotsky 2004, p. 9)

The ubiquity of creativity is acknowledged by Craft (2001) who contrasts everyday 'little c' creativity (such as cooking a meal from a limited range of ingredients) to 'big C' creativity that has historical or social significance. Craft identifies 'little c' creativity as requiring agency and processes of imagination and problem solving. In addition she suggests that it can occur in any domain, not just the creative arts.

Vygotsky (2004) proposes a central role for **imagination** in the creative process and suggests that imagination is influenced by both personal experience and social interactions. While he states that 'the creative activity of the imagination depends directly on the richness and variety of a person's previous experience because this experience provides the material from which the products of fantasy are constructed' (pp. 14-15), Vygotsky also notes that imagination:

> *becomes the means by which a person's experience is broadened, because he can imagine what he has not seen, can conceptualize something from another person's narration and description of what he himself has never directly experienced. He is not limited to the narrow circle and narrow boundaries of his own experience but can venture far*

> *beyond these boundaries, assimilating, with the help of his imagination someone else's historical or social experience.* (p. 17)

Wenger sees the central role of reification in this communication and development of ideas providing sources for creative imagination: 'Reification can provide tools of imagination – maps, visualization, stories, simulations – tools to see patterns in time and space that are not perceivable through local engagement. It can also provide a language: new words to talk about one's place in the world' (Wenger 1998, p. 186).

The social, collaborative and mediated aspects of creativity have been highlighted by subsequent sociocultural theorists. Hämäläinen and Vähäsantanen (2011) contest that 'creativity involves situated interaction processes with other members working with the topic that are mediated by the present context (e.g., tools, forms and technologies)' (p. 172). Creativity is 'a process that takes place especially in the collaboration between people and is intertwined with the present environment and culture' (p. 172). In a parallel to the ZPD they note that 'the different roles of group members, including mutual explaining and shared knowledge construction, have been seen to enable new creative processes and outputs'. To summarize they suggest that 'creativity is understood here as a collaborative process … in which the members of the community produce a new and useful output (an idea, understanding or solution) for the group or wider community, and different social resources and tools related to collaboration can promote creativity' (p. 172).

Vygotsky's suggestion that creativity is the act of combination to create something new is echoed by Gauntlett (2018), who, when considering the creative potential of digital media, defines creativity as being about connection, either through tool use and mediation by connecting things (materials, ideas or both) to make something new, or through collaboration by connecting people. The mediated nature of creativity, along with Gauntlett's belief, shared with Vygotsky, in the ubiquity of creativity is apparent from his definition of 'everyday creativity' as 'a process which brings together at least one active human mind, and the material or digital world, in the activity of making something' (p. 67). Gauntlett suggests that the development of the world-wide web created an opportunity for creativity to flourish as it 'opened up a world of diversity and imagination where the content itself is created by everyday users…. This opportunity to make media

and, in particular, share it easily, making connections with others, was unprecedented in both character and scale' (p. 19).

The role of previous experience in imagination and creativity suggests that **reflection** plays a central role in the process. Brockbank (2007) defines reflection as:

> *first, the process or means by which an experience, in the form of thought, feeling or action, is brought into consideration, while it is happening or subsequently. Secondly, deriving from the first, the creation of meaning and conceptualization from experience and the potentiality to look at things as other than they are.* (p. 64)

This definition has parallels with Wenger's (1998) view of imagination as 'creating images of the world and seeing connections through time and space by extrapolating from our own experience' (p. 173) where he identifies reflection as facilitating this process. Similarly emphasizing the connection between imagination and reflection, James and Brookfield (2014) state that 'for students, engaging imagination requires an attempt to see things from multiple, and very different, perspectives, and to be open to multiple ways of learning something' (p. 12).

Schon (1983) goes further and presents the creative process itself as an example of his concept of *reflection in action* (thinking critically about and reshaping an activity as it occurs) where creative design is 'a conversation with the materials of a situation' (p. 78). The creation of an artefact can be complex and this complexity requires that the creator react to unforeseen changes in the situation. The creator:

> *shapes the situation, in accordance with his initial appreciation of it, the situation "talks back," and he responds to the situation's back-talk. In a good process of design, this conversation with the situation is reflective. In answer to the situation's back-talk, the designer reflects-in-action on the construction of the problem, the strategies of action, or the model of the phenomena, which have been implicit in his moves.* (p. 79)

Considering how an emphasis on reflection might influence practice, echoing some of the themes identified above, Brockbank (2007) suggests that it changes the relationship between teacher and student to 'one where learners and teacher engage and work together as they jointly construct meaning and knowledge' (p. 5) and where 'the teacher

becomes a facilitator of learning. The focus becomes the students' learning and how they may come to understand, appropriate, modify and transcend meanings' (p. 5).

2.2.6 Adult learners and sociocultural approaches

As can be seen from some of the quotations above, Vygotsky's work specifically, but also that of some later contributors, links learning to the psychological development of children. In the field of adult education, of which HE might be considered a part, however, the practices that have emerged from the literature are recognized as being applicable to adult learners.

Discussing how 'becoming knowledgeable involves acquiring the symbolic meaning structures appropriate to one's society', Candy (1991, p. 275) suggests that 'teaching and learning, especially for adults, is a process of negotiation, involving the construction and exchange of personally relevant and viable meanings' (p. 275) contesting that much adult learning theory is influences by approaches that emphasize 'active inquiry, independence, and individuality in a learning task' (p. 278). Merriam et al. (2007) discuss how in adult learning 'one's meaning schemes and meaning perspectives undergo radical change' and that 'this change is mediated through personal reflection and dialogue with others' (p. 293). They emphasize that 'concepts such as cognitive apprenticeship, situated learning, reflective practice, and communities of practice' (p. 293) are common in the literature of adult learning.

Taking this into account, it is, therefore, legitimate for this study to consider that approaches that might have been developed in consideration of the education of children are also applicable to adult learners in HE.

2.3 Digital video and pedagogy in Higher Education

Having considered what a sociocultural approach to pedagogy might mean in practice, we now move on to assess how video[2] is currently used to support learning and teaching in HE.

[2] The term 'video' as used in this thesis refers to recorded moving visual images and 'digital video' to that produced using a digital signal and, mostly, delivered over a network. The relative ease of producing and sharing digital video, and the consequent increase in its use, is one of the drivers behind the study.

In a review of video use in education, Kay (2012) suggests that 'three distinct teaching approaches are evident … receptive viewing, problem solving, and created video podcasts' (p. 822). This division remains apparent in the literature – this section identifies examples of all of these practices and considers the differing pedagogical approaches that they represent.

2.3.1 Pedagogy of video

The literature on the use of video in HE offers a number of differing views of pedagogy. One view, where video and audio are used purely for content delivery (for example, recordings of lectures or instructional video) suggests a view of mind consistent with that described by McCormack and Murphy (2008) as 'symbol-processing', where material is transmitted to and acquired by learners as part of an individual process echoing Sfard's (1998) 'acquisition metaphor' (AM) of teaching and learning where we can think about knowledge as being akin to material goods and 'the human mind as a container to be filled with certain materials and about the learner as becoming owner of this material' (p. 5).

Another position, where video and audio are used as a basis for collaboration and reflection, displays the characteristics of sociocultural approaches to teaching and learning identified above, where 'the role of others in creating and sharing meaning' (McCormack and Murphy, 2008, p. 5) is acknowledged. These approaches are closer to McCormack and Murphy's (2008) situated approach and Sfard's (1998) 'participation metaphor' (PM), where 'learning a subject is now conceived as becoming a member of a certain community' (p. 6) and that this entails 'the ability to communicate in the language of this community and to act according to it particular norms' (p. 6).

Addressing the subject of the pedagogy of video use in education, Young and Moes (2014) present a four 'I's model: image, interactivity, integration and input. They describe 'image' as being a presentational approach and very much instructor led, with 'interaction' (by which they mean interacting with the video through pausing, reviewing, etc.) being more active with users beginning to construct knowledge. 'Integration' is where video appears with other material, for example within a virtual learning

environment (VLE), and where communication opportunities and context are available, while 'input' recognizes the opportunities for students to create and share their own video material easily using near-ubiquitous recording hardware, such as mobile phones, and via video-sharing sites such as YouTube and Vimeo. The continuum presented in this model suggest a movement from McCormack and Murphy's (2008) symbol processing view towards the situated approach associated with sociocultural theory.

Figure 2.2 shows Sfard's (1998) AM and PM and Young and Moes' (2014) four 'I's model mapped on to McCormack and Murphy's (2008) continuum. This model is used below to assess the views of pedagogy presented or implied in the literature of the use of video in HE. It is also used later in the study to frame the analysis of practice.

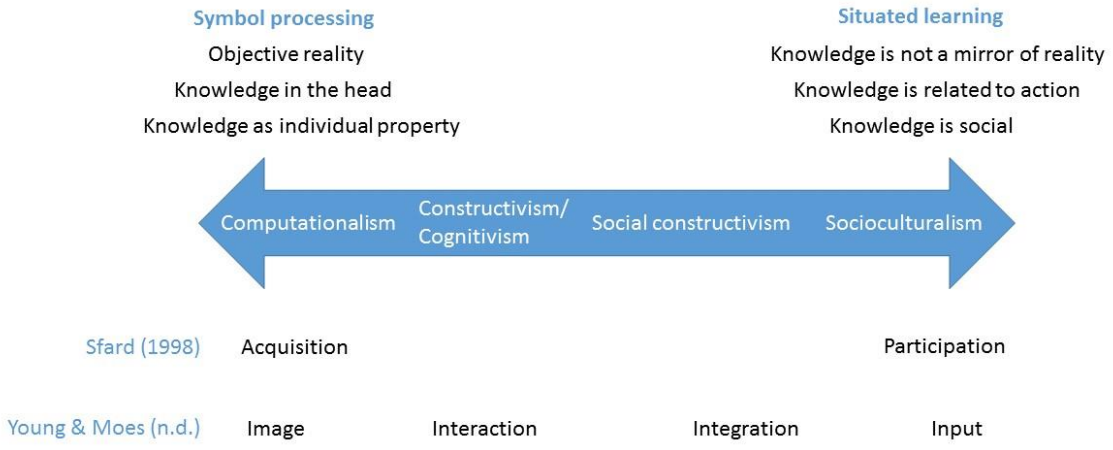

Figure 2.2 - Sfard's (1998) AM and PM and Young and Moes' (2014) four 'I's model mapped on to McCormack and Murphy's (2008) continuum

In terms of analysing practice from a sociocultural perspective, McCormack and Murphy suggest that there are three levels of analysis that need to be considered 'namely that of the *specified*, the *enacted* and the *experienced* curricula' (p. 4, emphasis in original). These concepts will be visited again in Chapter 3, where they are applied to this study, but, in summary, the specified curriculum focuses on the aims of the content to be taught, the enacted curriculum focuses on how it is taught and the experienced curriculum on how learners act and interact. The following review of the literature of video use in HE will focus mostly on the specified and enacted curriculum – as will be seen, this is because published research tends to concentrate on the practitioner perspective and, as we saw in Section 2.2.1, the pedagogical approach only becomes

apparent in how the content is presented and how 'success' or otherwise of practice is measured. One of the aims of this study is to expand our knowledge of the curriculum as experienced by students working on media-production activities.

2.3.2 Video use in HE

The delivery of educational content in HE via moving images has a long history. The University of Iowa is recorded as using television in 1932 and, in the United States, 'by 1948 at least five universities were using television for educational purposes' (Weinbren, 2015, p. 60). In the UK, The Open University (OU) began broadcasting in January 1971 (via BBC television). Programmes were broadcast in the early evening and on Saturday and Sunday mornings, as that is when students were most able to watch live. As the ownership of video recorders increased in the 1980s and 1990s programmes began to be broadcast during the night (Weinbren, 2015), with students recording them and watching when convenient, thus allowing for interaction and greater integration – in discussing this change at the time Crooks and Kirkwood (1988) suggested that video tapes allowed learners to 'adjust pace, repeat and search in order to comprehend visually and/or conceptually dense material' and that learners could 'both reflect on and analyse material more easily, stopping between sequences to undertake an activity or to integrate video material with other teaching media' (p. 14). Watters (2013) discusses this model being followed as she received instruction via video tapes while studying a statistics course at a distance from a state university in the USA in the mid-1990s. In the early 2000s the OU began to distribute video material to students in digital formats via CD and DVD, with the last course-related broadcast being made in 2006.

The video sharing site YouTube was founded in 2005, making it easy for videos to be distributed and shared online. This, along with the development of cheap digital video cameras and, later, the smart phone has meant that:

> *the use of video within higher education has seen a substantial increase since 2005, particularly with the ease of embedding videos from sites such as YouTube. Before this, video was usually bespoke, commissioned, or purchased and was often prohibitively expensive….*
>
> *This ease of production, combined with the availability of abundant, easily discoverable, and reusable video content on YouTube meant that*

producing a multimedia course was within reach of any educator.

(Weller 2020, pp 87-88).

This change in distribution was reflected at the OU where, since 2008, video material has been made available online, both via open systems such as iTunesU, YouTube and Open Learn, and via the OU's VLE (Weinbren, 2015). Since 2012, this use of video delivered at a distance via online platforms has been a major teaching method of many so-called 'massive online open courses' (MOOCs) delivered via platforms such as Coursera, edX and FutureLearn (Universities UK, 2013).

This use of video in HE has largely followed a model where video is 'content' and is used to transfer knowledge from the educator to the student. This review will start from that point and then move on to consider more participative approaches to using video in HE.

2.3.3 Video use as knowledge transfer

2.3.3.1 Image

The largest reported use of video in HE in the literature is in forms that would be described in Young and Moe's (2014) model as 'image' and by Kay (2012) as 'receptive viewing' and so falls to the left of the continuum shown in Figure 2.2.

Recorded lectures

There have been a large number of studies looking at how the use of recorded lectures affects student achievement. Some of these (O'Bannon et al., 2011; Griffin et al., 2009; McKinney et al., 2009; Stephenson et al., 2008) describe controlled trials in which students were split into groups that received either 'traditional' face-to-face lectures or some kind of recorded lectures, including audio and video. Other similar studies (Nordmann et al., 2019; Bos et al., 2016) do not use a control group, but consider achievement against the frequency of use of recorded lectures and, in Nordmann et al.'s case, against level of study.

All of these studies assess how using recorded lectures affected student performance, with each of them measuring success by, at least in part, testing the student groups using a multiple-choice quiz (MCQ). It is not within the scope of this thesis to consider the results of these studies (which are varied), but the pedagogical model implied by them is of interest. In line with the findings at the beginning of this review, there is no mention in these studies of the pedagogical models being followed, but the methodology of controlled trials measured quantitatively via MCQs seems to represent a positivist

approach and the conclusions suggest that 'achievement' in learning is, at least in part, the acquisition and successful reproduction of taught material in MCQ tests.

From the perspective of this study, the approach described above has limitations. These are recognized by Lonn and Teasley (2009) who, in a study of digital media use in a US HE institution conclude that 'research on the educational use of podcasting[3] needs to address the conceptual issue of whether this technology is simply a mechanism for student review or a valuable method for students to construct knowledge' (p. 91). The problem highlighted with the use of video here, however, may be part of a wider issue with the lecture format – echoing some of the themes developed in the first part of this review, Jones (2007) states that 'active participation is a prerequisite for students' construction of meaningful knowledge … the lecture format at its most didactic cannot address this pedagogic need and must be made more valuable for student learning by enhancements prompted by current learning theories' (p. 403).

It is not just teachers whose perception of pedagogy is focused more on Sfard's acquisition metaphor without a related recognition of the possibilities of a participative approach – a number of studies have illustrated that this is also the case for students.

In a review into the use of lecture recordings in HE, O'Callaghan et al. (2017) found that the main uses of recordings among students were: to review concepts and issues, to fill gaps where information was not comprehended fully, to be able to review recordings repeatedly and to make up for missed classes. In addition, recorded lectures were considered particularly useful for exam revision and they cite two studies (Vajoczki et al., 2010; Von Konsky et al., 2009) that found that the heaviest use of recordings was in the week prior to assessments.

Similarly, Gorissen, van Bruggen and Jochems (2012) report on how students in two HE institutions use recorded lectures, finding that those rated most important by students were: making up for a missed lecture, preparing for the exam, improving test scores and improving the retention of lecture material.

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[3] Lonn and Teasley (2009) describe podcasting as 'any digital media file, or series of files, distributed over the Internet for playback on portable media players' (p. 88) and include both audio and video material in this definition.

Both of these papers, which highlight a view of learning based on the transmission and recollection of content, suggest that students' perceptions of pedagogy are similar to the practitioner studies mentioned above.

Educational video design

In addition to teachers' and students' views of how lecture recordings can support learning and achievement, another strand of research into the use of video to support learning is around the optimal design and length of educational video. Mayer (2017) uses his 'cognitive theory of multimedia learning' to identify some features for the design of 'effective multimedia in e-learning' (multimedia being 'words (such as spoken or printed text) and graphics (such as animation, video or static illustrations)' (p. 405)). Based on his theory, Mayer presents a number of principles for how content should be presented, and then presents evidence for their effectiveness, for example, 'people learn better from a computer-based multimedia lesson when extraneous material is excluded rather than included' (p. 407); or 'people learned better from a computer-based multimedia lesson – including animations and videos – when the onscreen agent used human-like gestures and movements while talking' (p. 415). Again, it is beyond the scope of this thesis to critique the neuroscience presented in the cognitive model, but it is clearly aligned to a signal-processing approach with knowledge being an external reality that is transferred into the student's brain. It is also, again, of interest that the efficacy of each of the principles identified, reported consistently across a number of studies, is 'students scored better on transfer or comprehension tests' (p. 407).

Considering optimal length of educational video, Guo et al. (2014), researching student video use on the edX MOOC platform, found that 'shorter videos are much more engaging' (p. 41) recommending that 'instructors should segment videos into short chunks, ideally less than 6 minutes' (p. 45). It is interesting to note here that Guo et al. are not measuring effectiveness, however that might be defined, but 'engagement', for which they use the proxies of the time that students spend viewing a video and whether they move on to the next task following that viewing. While the contention that there might be an optimal length for a video suggests an 'acquisition' model as noted for all of the studies above, the fact that engagement is considered to include how the video integrates with other tasks moves us slightly along the continuum presented in Figure 2.2 into the areas of interaction and integration.

Before moving on to look at those areas, the findings from this section considering the use of video as 'image', either through the recording of traditional lectures or the production of bespoke content, are:

- It is by far the most practised and researched area of video use in higher education.
- It is very much based on a knowledge transfer and acquisition model of pedagogy.
- The practice of teachers, students and educational researchers suggests that they hold this view.

For a thesis considering how digital video might be used to support a sociocultural approach to pedagogy, this confirms that, as suggested above, we need to move further along the continuum and that the method of pedagogy being explored is beyond usual practice.

2.3.3.2 Interaction and integration

Continuing the focus on digital recordings of lectures, Mertens et al., (2010) and Ketterl et al., (2009) explore functionality that could be characterized as moving on from 'image' and representing 'interaction' and 'integration' in Young and Moes' (2014) model. They describe how 'social bookmarking' (showing how frequently parts of each video have been played by other viewers) is viewed positively by students and affects how they navigate through recordings. They do not, however, address the pedagogy of using this functionality so it is unclear how the interaction reflects how students use the information they receive other than that they more frequently view 'popular' content.

'Blended' learning

Describing another way in which video can be integrated with other activities or content, Stein and Graham (2014) discuss 'blended' approaches to learning where videos are produced by teachers, via a webcam, mobile phone or screencast, and are uploaded to course areas in a VLE. Students are then able to 'access, view and review these lectures on their own schedule, when they can give their fullest attention' (p. 121). The 'blendedness' of this approach is where lectures are 'followed by an application activity' or 'preceded by activities that prompt students to question their own assumptions and identify problems in their understanding' (p. 121). The benefits identified for the use of video are reusability, flexibility, portability and efficiency and these authors repeat, but do not directly acknowledge, some of Mayer's suggestions around the design of content

(for example, to ‘avoid information overload’ video producers should ‘avoid narrating while written text is visible’ (p. 123)). While this use of video does move us along the continuum, with elements of interaction, the emphasis on design for cognition and the description of some of the interactions, which include MCQ tests, continues to imply a symbol processing model of knowledge acquisition.

A number of studies have considered how blended or ‘flipped’ approach can facilitate learning. Berrett (2012) suggests that this approach can encourage collaboration, better conceptual understanding and more ‘active’ learning, but also reports some concerns about lack of student engagement, with many students preferring the model of the traditional lecture. The theme of active learning is pursued by Baepler et al. (2014), who describe a study where they consider comparative outcomes between groups of undergraduate students of chemistry who studied either in ‘a theater-style classroom with 350 students’ where ‘they listened to lectures, watched demonstrations, and responded to the instructor's questions and prompts’ or in an ‘active learning classroom’ (ALC) where they ‘had access to optional online lectures, solved problems in small groups during class, worked with computer simulations, played a chemistry version of the game Jeopardy, and answered clicker questions’ (p. 230). The authors found that ‘overall, the results … after controlling for demographic and aptitude-related variables, flipped, hybrid ALC-based classes can yield student-learning outcomes that are at least as good as, and in one study better than, a comparable class taught in a traditional auditorium-style classroom’ (p. 234).

This study shows a movement along the continuum to show a pedagogy where video is integrated with other, participative elements, but as before, the measurement chosen for student success was based on difference in student grades based partly on a 20-item MCQ. It is also interesting to note the use of phrase ‘controlling for demographic and aptitude variables’ when reporting results – this strongly suggests that the authors consider that there is an objective version of knowledge that is outside the students lived experience and sociocultural background.

Continuing the pattern of investigating the quantitative differences in academic outcome of students using the flipped approach and those attending traditional lectures two studies (Blair et al., 2016; Findlay-Thompson and Mombourquette, 2014) found no significant difference between flipped approaches and ‘traditional’ methods. Both

studies, however, also sought to evaluate the student experience of this approach. Findlay-Thompson and Mombourquette (2014) found that students value communication with teachers but that they are in disagreement about whether this model facilitates this – for example, one student comments positively that 'it is easier to talk to your professor in the class. In other classes, we (students) sit and listen. I do not like interrupting or asking questions. In our class, we could ask questions all the time. I did better because of this' (p. 67), while another states that 'I didn't enjoy the class. I want to come to class and learn the material from the professor. This way if I don't understand something I can stop and ask her. In this class, I had to watch lectures and if I was confused I had to email questions or remember to ask in class' (p. 67). Blair et al., (2016) also found that students valued 'the interaction between lecturer and student' and the 'teacher focus on students understanding rather than just absorbing the lectures' (p. 1477). Although these studies again judged the success or otherwise of the flipped approach through exam scores, both also attempted some analysis of students' feelings about the approach – these showed that students value interaction, particularly with the teacher. This takes us some way along the continuum towards integration but again shows that students' view of pedagogy is focused on the transfer of knowledge from the teacher.

MOOCs

Another area of activity in HE, which uses video content extensively is the Massive Open Online Course (MOOC). Daniels (2012) describes the then 'hype' surrounding MOOCs and considers that, while earlier models of delivery (so-called 'cMOOCs') promoted 'a philosophy of connectivism and networking' (p. 2), the prevailing pedagogy behind those promoted by elite HE institutions in the US at the time ('xMOOCs') was largely behaviourist. Universities UK (2013) stated that 'xMOOCs have their roots in campus learning management systems, with courses based around an accessible structure of video lectures, automated assessment and supporting message boards and resources' while for cMOOCs 'the principal mode of learning is through distributed peer networks sharing knowledge and experience via a range of online resources' (p. 14). The report describes xMOOCs as having a 'hierarchical relationship between an expert communicating knowledge to a relatively passive class' (p. 14) and contrasts this with the flatter structure of cMOOCs. Writing after the initial wave of interest in MOOCs had subsided, Storme et al. (2016) considered the prevailing use of video to be:

> *as the carrier of instruction. The user can intervene in the video, by pausing, repeating, and speeding up and down at will. These are possibilities to intervene in the instruction itself. The teacher, on the other hand, is the "instructor", the "actor-producer" who instructs and broadcasts knowledge.* (Storme et al. 2016, p.317)

In these circumstances students are 'hardly participants at all, and they are more like onlookers or spectators' (Storme et al. 2016, p. 315).

Bayne and Ross (2014) suggested that a binary classification of MOOCs is neither helpful nor accurate and that, as they illustrate through a number of case studies, the pedagogy of MOOCs is more nuanced. From their analysis of the various roles played by those who facilitate MOOCs the 'teaching function and teacherly professionalism remain central' (p. 57). As MOOCs have moved away from being standalone products and have become embedded in credit-bearing courses offered by HE institutions a pedagogy where online content is integrated with other activity, has emerged (Storme et al. 2016).

Video as problem solving

Some authors suggest that video content is an effective medium for problem solving and instruction in practical tasks and describe the design features of videos for learning. As before, however, many of these studies display a pedagogy based on knowledge transfer and symbol processing.

Donker (2010), for example, tested the effectiveness of instructional video over paper-based resources for demonstrating techniques to construction students. He found no significant difference in knowledge acquisition (again tested via MCQ), but that practical skills 'were significantly higher among users of video-based instructional materials' (p. 96). Similarly, Kay and Kletskin (2012) describe using short videos to demonstrate practical problem solving in mathematics and report that students viewed these positively and self-reported increased understanding. They describe some 'key features' of their video design, such as segmenting into clear steps, contextualizing the problem, writing down key elements, illustrating key aspects with clear visuals, using a conversational, relaxed voice and minimizing the length of each clip. These features bear a resemblance to those presented by Mayer (2017) in his cognitive model and, therefore, suggest a similar view of knowledge acquisition.

Koehler et al. (2005), in a study of students viewing four different types of video and accessing the same information in text-based form that sought to identify the 'perceived and actual properties … that define relationships between media formats and the intentions, perceptions and capabilities of learners' (p. 250), found that video was not an inherently more engaging format for educational material and that context and story are important factors in student engagement. They speculate that type of story, the professionalism of the presentation and the inclusion of other content in videos (for example, text overlays) increase engagement.

The finding that professional presentation increases engagement with video contrasts with the views of Capps (2009) and Weller (2011) who discuss how cheap and usable digital technology have encouraged a 'good enough' revolution where users value affordability and ease of use more highly than quality. Applying Capps' idea to scholarship, Weller (2011) suggests that tools that 'tie in with the digital, networked, open culture … present both a challenge and opportunity for existing practice. They easily allow experimentation and are founded on a digital, networked, open approach' (p. 11).

This apparent discrepancy between Koehler et al. (2005) and later authors may be explained by the relative novelty of easy video sharing when the former were writing, with You Tube, the largest video sharing web site, having only been created in the same year as the publication of their paper.

As can be seen from the above, attempts to summarize the effectiveness of the 'video as content' model (with effectiveness being measured almost exclusively quantitatively) show mixed results. A review by Heilesen (2010) concludes that 'purely in terms of assessing student performance, indications of the efficacy of podcasting[4] are as yet fairly weak' (p. 1063) and , as was seen above, this continues to be the case. This is a similar finding to Kay (2012) who, in conducting a review of studies of lecture recordings found seven studies reporting improved results and six reporting no impact. Both Kay (2012) and Heilesen (2010) report that students are motivated by and positive about video content, with Heilesen concluding that 'podcasting does seem to have a general positive

[4] A term that they use 'in the broadest possible sense of audio as well as video (vodcasting) published on the Internet ' (Heilesen, 2010, p. 1063).

impact on the academic environment' (p. 1063) and that 'many students experience podcasts as a genuine improvement to the study environment, and that they use the new tool rationally as a supplement to their study activities' (p. 1063).

At this point in the literature review, where we have considered the use of video as content, we have moved along Young and Moes' (2014) model from input to integration and some way along the pedagogic continuum represented in Figure 2.2. As can be seen from the consistent use of quantitative approaches in all of the studies considered so far, the epistemology and pedagogy represented is rooted in a view of knowledge as an external reality that is to be transferred to and acquired by the learner. The review will now consider whether video production, rather than consumption, moves us further along the continuum towards a more sociocultural approach.

2.3.4 Video as knowledge production

Moving on from the notion of video as content, as suggested by Kay (2012), the literature shows a third pedagogical approach to the use of video that 'involves students planning and creating their own video podcasts. Students learn by investigating, collaborating, researching…' (p. 822). In 2012, Kay found this use to be uncommon (identifying only two studies from the 53 reviewed). Widening the definition of student-produced video to include those that focus on practice, and considering research published in the time that has elapsed since Kay's review, a number of studies can be identified, particularly in the field of teacher education, that demonstrate a pedagogy including elements of dialogue, collaboration, reflection, and collaborative and group learning, moving towards the 'input' end of Young and Moes' (2014) model.

2.3.4.1 Reflecting on practice

For a number of years video has been used as a means for reflection on and assessment of practice in the field of teacher education and has been described by many authors (Jordan, 2012; Kong, 2010; Marsh et al., 2010; Clarke, 2009; Rich and Hannafin, 2009; Bannink, 2009; So et al., 2009; Rosaen et al., 2008; Maclean and White, 2007; Lee and Wu, 2006; Khine and Lourdusamy, 2003). Similar studies have taken place in other professional education areas, such as Nursing (Smallheer et al., 2017; Yoo et al., 2009) , Law (Monroe, 2012) and Business Studies (Barry, 2012).

Many of these papers address similar areas, with most discussing students' reflection on practice as a means of learning. For example, Maclean and White (2007) used video of

student and experienced teachers' classroom practice as a basis for discussion and reflection and used analysis of the transcripts of these discussions to assess identity formation among the student teachers. Through language analysis the researchers were able to show how students' representations of themselves and their practice showed their emerging identities as teachers while also displaying individuality and agency. Maclean and White conclude that 'the identities of student teachers are shaped by joint reflection on videos of their own teaching' (p. 58). Similarly, Smallheer et al. (2017) find that using video to analyse practice of clinical skills in student nurses promotes and increases 'students' ownership of self-reflection and self-evaluation' (p. 159).

Using the textual analysis of students' reflective notes, which were collected via an online form following the students viewing videos of their own practice, Kong (2010) classified student responses into predefined categories using a reflective framework. He concluded that 'student teachers make more numerous and deeper reflective thoughts' (p. 1781) using video and the reflective framework than they did before using the video. Kong also concluded that students benefit from mentoring from experienced teachers but that the self-reflection described in the study is not by itself sufficient. This suggests a role for scaffolding from more experienced practitioners. It should be noted, however, that this study only included eight student participants and that the reflective framework used was fairly prescriptive consisting of a list of competencies against which students could judge themselves.

Marsh, Mitchell and Adamczyck (2010) describe a use of a 'real time' video system where teaching practice could be observed live from the school classroom by remote viewers in the participating university. This allowed a number of activities to take place, including the live observation of a classroom with student teachers being able to interact directly from the university with the teacher in the school or the use of synchronous teaching events at both the school and the university. Through a combination of questionnaires and interviews the authors concluded that the system was effective in 'enabling reflective practice, facilitating collaborative learning and supporting the development of the language of pedagogy' (p. 742).

Two studies (So, Pow and Hung, 2009; Jordan, 2012) include elements of peer feedback in their use of video. So, Pow and Hung (2009) introduce a 'collaborative learning community', where a small group of student teachers reflected and commented on web-

based videos of their own and others' practice. The authors again used textual analysis to classify students' comments and responses and found that students demonstrated independence, were motivated, and reflected not only on their own practice, for example by modifying practice that had been identified as ineffectual, but also on how they learned from each other. Identifying student independence and the ability to modify practice suggest that this activity promotes student agency. Similarly to Kong (2010), however, the small number of participants is a drawback of this study. Jordan (2012) used video to record students' peer feedback sessions. The sessions took place face to face and were recorded to allow the participants to reflect further upon the sessions revealing, in some cases, a 'richness of feedback that can make for uncomfortable viewing' (p. 20). Jordan concludes that the use of video in this way helped to increase the effectiveness of both reflection and peer feedback.

2.3.4.2 Student-produced media

Moving on from video produced in order to analyse practice, a number of papers have been published on the use of student-produced media on HE. Based on two research studies, Kearney (2011) considers that projects involving student-produced media 'can support a rich, authentic learning experience, encouraging student autonomy and ownership, and meaningful student roles and interactions, especially when students are given an opportunity to discuss and celebrate their products with a relevant audience' (p. 169).

In presenting a learning design for student-generated digital video (DV) content, Kearney finds that 'guidelines for supporting learner-generated DV production tend to have a technical focus, often influenced by the professional film-making tradition, with less emphasis on important educational issues such as teacher roles, peer learning structures and support for reflective processes' (p. 170). Kearney goes on to present a pedagogical framework for such projects that includes elements such as scaffolding, collaboration, and reflection, which he maps to the process involved in digital video production (storyboarding, editing, etc.). From his studies performed in school and HE settings (and from the literature) Kearney finds that digital video tasks promote engagement, autonomous learning roles, traditional (oral and written) and new (digital) literacy skills, critical thinking and reflection amongst students. Kearney identifies these studies as being underpinned by sociocultural theories, but does not explicitly map his framework to this theoretical approach in the way advocated in this thesis, nor does he describe or present

analysis of student practice. The identification of activities that have been presented here as being consistent with sociocultural theory, however, represents a clear movement along the continuum of pedagogy presented in Figure 2.2 representing the use of digital video as part of participative pedagogy where knowledge is created rather than acquired.

Considering the effectiveness of digital storytelling for promoting reflection among students, Jenkins and Lonsdale (2007) studied two groups of students who produced videos that combined images and audio. They found that the students viewed the activity positively and that individual projects, when compared to group projects, showed 'much higher levels of reflection demonstrating clear evidence of reflection on personal development and their design process' (p. 441). A caveat to the finding that students working on group projects showed less reflection than those producing individual projects was that the group participants were in the induction week at university and so were working in an unfamiliar environment. Bearing this in mind, Jenkins and Lonsdale (2007) still found that the group projects showed 'some, but not high levels of, reflection' (p. 443) and that this was 'heartening'. They also report that students found the technology straightforward to use. Considering the potential of digital storytelling, Jenkins and Lonsdale (2007) feel that sharing the students' work could create

> *a discipline resource to enable further reflection and storytelling to encourage deep learning. The individual stories showed much deeper reflection but were part of a learning process that traditionally uses a studio model, where learning is both social and public. The showing of the digital stories in this peer-learning forum might give students a chance to connect with the thought processes of others, and may allow for 'scaffolding' to occur. Where formal critiquing of these stories takes place, the possibility of enhanced reflective learning could occur, and may allow the voicing of tacit understandings.* (p. 442)

While these authors discuss the value of reflection in learning, they do not place their work within a particular theoretical context (which, as has been seen above, is not uncommon in research into technology and learning). In contrast, Jenkins and Gravestock (2009) include reflection as one of the features that lead to their conclusion that digital storytelling represents what they call a socio-constructivist pedagogy suggesting that it encourages:

- Sense making – going 'beyond passive reviewing to the construction of an interpretation which is presented to an audience' (p. 7).
- Reflection – emphasizing 'the importance of experience (concrete experience), which through reflection (reflective observation) needs to be related to theory (abstract conceptualisation) and then applied in other situations (active experimentation)' (p. 8).
- Sharing implicit knowledge – 'Telling stories is one mechanism that can help achieve this. Storytelling has been identified as an important process in helping to develop communities of practice, not to achieve shared knowledge but to help develop a common framework which can lead to a shared interpretation' (p. 8).

The emphasis on sharing is investigated further by Thomas et al. (2014) in their description of peer feedback activities in Computing and IT modules at The Open University including one where students upload self-produced media for review by other students. Reporting results from a study of student feedback on the projects, they suggest that 'peer feedback, where students evaluate and give comments on each other's work, is considered beneficial in learning because students develop skills in reflection and this promotes deeper understanding. Students acquire the skills to identify assessment standards and criteria, to apply these to their own work, to make judgments about the work of others, and to be informed by the judgments of others' (p. 382). These authors are explicit about the influence of pedagogical theory behind the design of the activity:

> *Less experienced students benefit from the experience of their peers in 'communities of practice' (Lave & Wenger, 1991) and learning is 'situated' in an appropriate context (Brown, Collins & Duguid, 1989). The approaches support reflection in action and reflection on action (Schön, 1987), here applied in an online learning context. These approaches are based on the contention that the process of giving the feedback is particularly beneficial (Topping, 2010). Figure 4 illustrates the 'virtuous circle' of giving feedback in a 'studio' online environment, reflecting the Kolb (1984) experiential learning cycle with reflective observation and abstract conceptualisation occurring in a collaborative context.* (p. 384)

While emphasizing the tentative nature of their early findings, Thomas et al (2014) report that students enjoyed the experience of creating and sharing their work and that they were able to give satisfactory feedback on the work of others. They were less able to respond to the feedback they received and some reported a desire for 'expert' opinion rather than peer feedback. As noted above, this indicates a view of pedagogy among students more akin to knowledge acquisition side of the continuum presented in Figure 2.2.

Although the preceding authors have presented a largely positive view of student-produced media, Jenson et al. (2013) take a more critical approach cautioning against 'the ongoing and persistent discourse that positions educational researchers and their new media tools as "miracle workers" that allow students to leap over digital and socio-economic divides' (p. 225) and identify that 'media production is labor and resource intensive … and there are ongoing difficulties that are not reported on. In particular, students will encounter boundaries based on the structures in place by the institutions involved in the programs' (p. 225). Jenson et al. (2013) highlight 'how much was learned by and about students in the *process of media production*, compared to what would be a relatively minor, arguably superficial, and certainly misleading kind of knowledge or information based on the style and content of their productions alone' (p. 225) [emphasis added] showing that it is in the planning and production phases where much learning occurs. The authors conclude that 'in our continuing experience … these kinds of media interventionist projects necessarily involve more stumbling blocks than leaps, and demand work that is messy, not miraculous' (p. 226).

In a finding that relates to the emphasis on process highlighted by Jenson et al. (2013), giving their conclusions on a number of case studies at their institution, Gravestock and Jenkins (2009) consider that:

> *the process of creating a digital story is likely to be as important as the end product. There may be some applications where it is clear that the product is the main topic of interest (e.g., perhaps as part of a media-based course) or is intended to be a point of discussion … but there are other occasions where the purpose of the activity will be to promote student reflection, and in this situation it could be argued that the final product may not always adequately represent the level of learning or*

understanding that was developed through the process of creating the story. (p. 261)

2.3.4.3 Assessment of digital media

Gravestock and Jenkins consider that the emphasis of process over product in video production activities makes assessment of student-produced media difficult. Weller (2020), when considering the limited use of video for assessment and the continued dominance of text suggests that 'we have not fully developed critical strictures for this medium that are as commonly accepted as they are for text.... Perhaps the issue is more that educators know what a good essay looks like, and how to assess it, but are less sure as to what constitutes a good video' (p. 89). This is only part of the story, however – Gravestock and Jenkins (2009) suggest that additional forms of evidence, such as a reflective journal, may be required for video assessments, as 'it may be possible for a student to engage in quite high levels of learning and reflection … but for this not to be manifest within the final digital story' (p. 261). They go on to suggest some criteria against which digital media projects might be assessed and the evidence which might be used – these include an effective storyboard, evidence of critical evaluation, evidence of reflection, appropriate use of media, appropriate image selection, evidence of originality and evidence of personal engagement with the story. These criteria show a mixture of technical, creative and behavioural criteria that, when the process is considered central to learning, illustrate the difficulty in assessing digital video using the output as the source of assessment.

As might be expected, academics in the creative arts have attempted to address some of the issues around the assessment of process and how the sometimes-ill-defined concept of creativity can be assessed within the quality requirements of HE institutions. Cowdroy and Williams (2006) describe their difficulty in assessing creativity in architecture students in a way that corresponds with the requirements of their university for quantifiable, objective and transparent assessment:

when we attempted to be conscientious and objective in our assessment of creative ability and the feedback to our students... we found it almost impossible to explain to students how a particular mark or grade had been derived, and why one student (with a higher grade) was more creative than another (with a lower grade). When we attempted to put

> *in writing precisely what our learning objectives were, precisely what outcomes we expected and what we were teaching and why, we found it almost impossible to explain what creativity really means.* (p. 99)

Addressing similar issues, and acknowledging that 'the creative process is actually very difficult to assess' and that 'creativity tends to be evaluated and assessed in terms of what is produced rather than the processes that led to it' (p. 12), Kleiman (2005) describes the development of a model designed to assess creativity in performing arts students that he felt could be applied to the assessment of creative work in general. The model included six aspects:

> *'1. Presentation/Production, i.e. the finished product presented to an audience*
>
> *2. Process, i.e. the journey that led to the product*
>
> *3. Idea, i.e. the ideas that informed both the process and the product.*
>
> *4. Technical, i.e. the quality and utility of the technical features of the product and the skills with which they were assembled and/or operated*
>
> *5. Documentation, i.e. research, design, planning, evaluation etc.*
>
> *6. Interview, i.e. the student's ability to articulate their understanding, utilisation and application and use of any of the above.'* (p. 16)

While recognizing that this approach may be attempting to quantify something that might be thought of as unquantifiable, these aspects acknowledge the importance of, and attempt to create a holistic overview of, the creative process as well as the product. They, therefore, offer a framework that might be adapted when considering assessment criteria for a student-produced video project.

Further problems around assessment are addressed by a number of authors who highlight issues posed by the nature of the medium and by sociocultural approaches to learning. For example, Reyna and Meier (2020) discuss students acting as media creators being a concept that 'involves engaging students in their learning process' and 'enabling their agency as 21st-century learners' (p. 1), ideas that might suggest an approach at the constructivist or sociocultural end of the continuum presented in Figure 2.2. However, Reyna and Meier (2020), when describing three frameworks that they have developed

from their work with groups of STEM students who have developed 5-minute videos on various topics as part of their module assessment, show an approach that focuses on developing and measuring student skills rather than valuing the development process itself. The three suggested frameworks are digital media literacy (including 'skills required for the students to use digital media design software' (p. 3)), digital media principles (including 'layout and how elements are distributed on screen' (p. 4)) and digital media implementation (including understanding of 'the assessment workflow and the rationale behind learning with digital media' (p. 4)). While Reyna and Meier begin by focusing on collaboration and creativity the foregrounding of skills in measuring successful outputs illustrates the point made by McCormack and Murphy (2008) that 'it is common… for constructivist rhetoric to underpin the specified curriculum, but to be noticeably absent from assessment of the curriculum' (p. 10).

The implications of taking a sociocultural approach to pedagogy are that we need to rethink what we consider to be effective or valid assessment. Gibbs (2019) contests that, because research shows that students take a strategic approach to learning, there exists a 'gap between the course as presented publicly in course documentation and by faculty, and the narrower and rather different course students experienced and actually studied' (p. 23) (or, put in the language of McCormack and Murphy (2008), curriculum as specified and curriculum as experienced). As 'assessment frames learning, creates learning activity and orients all aspects of learning behaviour… in many courses it has more impact on learning than does teaching' (Gibbs, 2019, p. 22) and so assessment should be designed to give a positive response to the question 'Do the things students have to do to meet assessment requirements engender appropriate, engaged and productive learning activity?' (p. 28). The influence of assessment on student activity is highlighted by Nielsen et al. (2020) who, when considering the 'digital artefacts' created by students studying a variety of STEM subjects, found that 'the artefacts exhibited considerable variety in terms of their design, with the assessment contexts contributing significantly to this diversity' (p. 2411).

In considering how assessment supported by digital technology affects assessment design, Walker and Jenkins (2019), in findings that echo the points made above, suggest that it:

> *has replicated traditional modes of assessment as a way of measuring knowledge acquisition (conceptual learning), as opposed to focusing on the demonstration of students' skills and competencies through the performance of authentic tasks. The latter 'assessment as learning' approach places an emphasis instead on the development of student's problem solving and self-regulation skills and capabilities for future learning as much as the end product.* (pp 164-165)

This latter conceptualization of assessment echoes McCormack and Murphy's view that 'a situated view of learning requires a radical rethink of assessment that would encompass, for example, shared understanding. At the very least it would make group assessment a central issue' (McCormack and Murphy, 2008, p. 11). For these authors, the importance of *process* in a situated approach to assessment:

> *means that interpretations of responses are made problematic, i.e., the central issue of validity in assessment. Furthermore, such a view leads one to anticipate variation in response from an individual to demands in assessment tasks…. Consequently, the traditional notion of reliability is under threat in a situated approach to assessment. The implications of this for assessment methods are demanding… but it will be evident that we must be more modest in what we think assessment is able to achieve, and at the same time more creative in the practices we implement. The need to expand the kinds of evidence that are used in assessment is obvious, to accompany the move to authentic assessments…. Thus, interpreting student responses to tasks can be seen in the context of the community of practice; it may imply more interrogation of the student to establish the context of the response, along with the kind of evidence gained from such things as process-folios…. The broader the range of assessment used to illuminate a complex achievement or performance, the better will be the understanding of the student* (McCormack and Murphy 2008, pp 11-12)

In the domain of digital assessment, where 'digital authorship requires us to build a nuanced approach to design and interpretation, where the actions and interests of the student and the teacher are bound to a wider network of human and nonhuman

technologies and resources, opportunities and restrictions' (Bayne et al. 2020, p. 46) there is a similar pressure on what is considered validity in assessment. The tensions between collaboration and process have 'potentially profound implications for how we understand authorial agency and the relation of this to the assessment and evaluation of academic work, individuation, and the methods we use for assessing – and awarding credit on the basis of – quality of knowledge representation' (Bayne et al. 2020, p. 46)

2.4 Conclusion

This literature review has shown that a pedagogy influenced by sociocultural theory would take a situated approach to learning, where knowledge is constructed in a social context by active and agentive participants. This would be presented in practice by activities that emphasize collaboration, active participation, scaffolding, agency, authenticity, shared understanding and use of signs and tool, the creation of meaningful artefacts (reification), and the use of imagination and reflection.

Considering the theoretical approaches taken to working with learning technology in HE, and specifically, the use of digital video, the review has shown that the prevailing practice does not take a sociocultural approach, but instead views knowledge as an external reality that must be transferred to and acquired by the learner. This view presents effective practice as 'what works' to improve quantitative results.

Some practices, where video is produced by, rather than consumed by, students, are identified that include elements of a sociocultural approach, but none analyse practice from this acknowledged perspective. The review has identified the importance of *process* in learning through video production and has highlighted that this has implications for the practice of assessment.

This review, therefore, has identified a gap in the literature, where activities that involve video production are examined from a sociocultural perspective to consider whether the elements identified here are present and what this means for practice and student learning.

Chapter 3 will present the study that seeks to fill this gap and the methodological implications of analysing practice from a sociocultural perspective.

Chapter 3 Methodology

Having described in Chapter 2 what practices would appear in a pedagogy influenced by sociocultural theory and then considered the pedagogy implied by the use of video in HE, this chapter moves on to describe the methodological approach taken in this research study to answer the question: how can video be used to support a sociocultural approach to teaching and learning in HE? It begins with a consideration of the implications of researching pedagogy from a sociocultural perspective, how these influenced data collection and analysis and what this means for the quality and transferability of the study. It then moves on to describe the research context and the participants.

3.1 Methodological considerations of sociocultural pedagogy

There are a number of methodological implications of applying a sociocultural perspective to pedagogy. These are discussed by Nind et al. (2016) who contrast their approach with other forms of educational research. As was shown in Chapter 2, from a sociocultural perspective, 'participants (learners, teachers/mentors) act and negotiate meanings in the course of engaging with particular tasks within particular sets of relations, roles, interests and expectations, and broader institutional practices and imperatives.' (Nind et al., 2016, p. 15) and 'learning concerns how people change the way they participate in practices and activities; and pedagogy concerns how people are *enabled, supported or constrained in how they participate in practices and activities*, and how their histories mediate and are brought to bear by the teacher and by the setting.' (Nind et al., 2016, p.10) [emphasis added].

The implication of this emphasis on the particular and the person means that sociocultural pedagogical research is rooted in the specifics of the situation being studied suggesting an approach that echoes the 'thick description' (Geertz, 1973) implicit in qualitative research methods and that 'seeks to recognise the dynamic interplay between the social order – or pedagogy as specified – and the experienced world, where practice emerges through the interactions of actual people – pedagogy as experienced' (Nind et al. 2016, p. 16). As we saw in Chapter 2, quantitative or positivist approaches, mostly unacknowledged, that seek to identify a universal notion of pedagogy that describes

'what works' are implicit in much educational research. The qualitative approach taken in this study challenges 'the assumption … that the researcher can separate the phenomenon of how to support learning from social identities, power relations, people's interests and purposes, participants' meaning making, availability of resources, and existing organizational and institutional practices' (Nind et al. 2016, p. 12).

The idea that 'the effects on people's actions of their interpretations of the world create the possibility that people may differ in their responses to the same or similar situations' (Gage 2007, p. 153) means that the linear causal model implied by a positivist stance may not be entirely valid in social science research and that experimental results will, by their nature, not be wholly replicable. Pedagogic research that emphasizes mostly quantitative approaches wrongly 'assumes neutrality on the part of the people involved in the 'treatment' where all participants are assumed to stand outside the phenomena under investigation' (Nind et al. 2016, p. 14). Schofield (2007) points out that whereas the classic scientific model of research 'emphasizes the replicability of results' (p. 183), the perceived goal of qualitative research is to 'produce a coherent and illuminating description' (p. 183) of a particular situation, and that, therefore, we should not expect 'other researchers in a similar or even the same situation to replicate . . . findings in the sense of independently coming up with a precisely similar conceptualization' (p. 183). A qualitative approach acknowledges that 'the social and educational world is a messy place, full of contradictions, richness, complexity, connectedness, conjunctions and disjunctions. It is multilayered, and not easily susceptible to the atomization process inherent in much numerical research' (Cohen et al. 2011, p. 219). From a sociocultural perspective, Cole and Scribner (1978), considering Vygotsky's experimental method, also advocate the importance of qualitative methods where 'detailed descriptions, based on careful observation, will constitute an important part of experimental findings' (p. 14).

Acknowledging these points, and their importance in supporting the research of pedagogy from a sociocultural perspective, this study takes an exclusively qualitative approach to data collection and analysis as detailed below. In doing so it is acknowledged that this has implications for the generalizability of findings, but, in line with the approach of Nind et al. (2016) outlined above, it is felt to 'make possible analytic generalizations (applied to wider theory on the basis of how selected cases 'fit' with general constructs) but not statistical generalizations (applied to wider populations on the basis of representative statistical sample)' (Savin-Baden 2013, p. 314).

3.1.1 Implications for data collection and analysis

As we saw in Chapter 2, McCormack and Murphy (2008) identified three levels of practice that can be used to analyse pedagogy – curriculum as specified, enacted and experienced. Nind et al. (2016) also identify these three interrelated dimensions of pedagogy as a useful tool to frame the description and analysis of pedagogy from a sociocultural perspective. The three dimensions are:

- *pedagogy as specified* – the official curriculum and the accepted way of teaching and learning
- *pedagogy as enacted* – how the policy is put into practice and how this draws on the history, experience, competence, relationships and agency of participants
- *pedagogy as experienced* – how action is interpreted, the subjective experience of teachers and learners, and how they are transformed by practice.

As this framework allows for us to identify the context of activity and the experiences and actions of participants it has been used to structure the data collection and analysis of this study (details of both of which are given below). While the details of data collection for each group studied is outlined below, the general principle of identifying relevant data is shown in Table 3.1.

An important element of this research, and, as was seen in Chapter 2, one that differentiates it from other studies, is the analysis of the pedagogy as experienced. McCormack and Murphy (2008) state that:

> *the experienced curriculum has largely been ignored in curriculum debates and it is our contention that this reflects the limited understanding about learning of those involved. If learners are the passive receivers of the enacted curriculum, then the received and the enacted curriculum correspond. What distinguishes these levels is the ability of the learners to learn or receive. If, however, learning is a social process, and if learners' agency, like teachers' agency, is recognised, then what is experienced is determined by the participants and the nature of their participation in the arenas in which curricula are enacted, for example, the learning activities and associated assessments.* (p. 3)

As we saw in Chapter 2, this statement is true for much of the research into video use in learning and teaching in HE. As this study is informed by a sociocultural approach to pedagogy then the elements of social collaboration, agency and participation can only really be shown through the students' experiences:

> *the prescribed and planned process the instructor is trying to implement must be compared and contrasted with the actual process performed by the learners. The two will never coincide. The gap, struggle, negotiation, and occasional merger between the two need to be taken as key resources for understanding the process of learning as processes of formation of agency.* (Engeström, 2015, p xix)

Table 3.1 - Sources of data mapped to Nind et al.'s (2016) framework.

Dimension	Source of data
Pedagogy as specified	• Documents, such as module content, 'official' documentation, specified learning outcomes, assessment criteria • Interviews with academic staff responsible for pedagogic design • Observations of teacher activity in the classroom
Pedagogy as enacted	• Interviews with academic staff responsible for enacting pedagogy • Observation of participant activity (including video recordings and contemporaneous field notes)
Pedagogy as experienced	• Interviews with academic staff and students following activity • Observation of participant activity

	(including video recordings and contemporaneous field notes)

3.2 Data collection

As outlined above, data collection was intended to cover the three dimensions of the study of pedagogy: pedagogy as specified, enacted and experienced. This section describes the rationale for selecting the types of data that were collected and how they relate to this framework.

3.2.1 Documents

The analysis of documents can 'help a researcher to understand a research environment or culture' (Savin-Baden and Major 2013, p. 410) and therefore give insight into the context of study. This was particularly useful for this study as it allowed the use of documents, such as module outlines, learning outcomes and assessment documents, to give insights into the 'pedagogy as specified' within the contexts being examined. The intention was to generate themes that represent the 'official' pedagogy that conveys the approaches and values considered to be important by the academics involved. Themes developed here could then give insights into how the activities being studied were designed and how the specified pedagogy compared with how it was enacted and experienced. The methods of analysis of this documentation are described below.

3.2.2 Interviews

Interviews were conducted in order to identify the views and interpretations of participants around how pedagogy was specified (in the case of academic participants), enacted and experienced.

Unlike other forms of qualitative data collection, interviews allow for the research question to be addressed directly, allow participants to express their thoughts and can provide in-depth information that helps to clarify or highlight data from other sources. They also allow for individual perspectives on group activity to be collected.

In this study interviews were semi-structured – each interview started with a description of the research and then went through a set of open questions, moving away from these where appropriate to examine particular points in more depth (see Appendix 1 for examples of interview questions). This semi-structured approach was selected as it is

‘open-ended enough to allow interviewees to express their perspectives… and also allow for comparable data to be compared across respondents’ (Savin-Baden and Major 2013, p. 359).

Interviews were conducted face to face where possible, but a number (detailed for each group below) were conducted over the telephone or via Skype where participants were not available for a face-to-face conversation or were studying at a distance. As interviews were just one data source and were focused on specific topics it was not felt that the social cues present in face-to-face interactions were important in this context. All interviews were audio recorded and transcribed. The importance of this is covered in the Section 3.3 below.

Although one of the benefits of interviews is that they are easy for participants, as acknowledged above, in this study not all student participants in each group were available for interview so this data remains partial for all groups.

3.2.3 Video data

Knoblauch et al. (2015) describe the use of video data as a means to ‘examine action and interaction’ describing their method as one where ‘researchers go “to the field” and focus the video camera on everyday situations in which actors act, and they analyse how they act’ (p. 20). The data collected is considered to be ‘natural’ as ‘the people studied go about their business as they would if there were no social scientists observing or taping them’ (p. 11). The emphasis on the ‘naturalness’ of the situation and on the action and interactions of participants suggest that it is a good tool to use to explore classroom practice and group work, the situations in which the enacted and experience pedagogy would be manifest.

Heath et al. (2010) suggest that video recordings are increasingly used to support research in education as ‘video helps to reveal how it is critical to understand visible conduct, material artefacts and features of the local environment within more formal educational environments‘ (p. 8). Like Knoblauch et al. (2015), they consider that the use of video enables ‘access to the fine details of conduct and interaction that are unavailable to more traditional social science methods’ (p. 2). In addition, ‘it provides opportunities to record aspects of social science in real time: talk, visible conduct, and the use of tools, technologies, objects and artefacts’ (p. 6). Similarly, Hmelo-Silver et al. (2008) feel that the use and analysis of video data is ideal for researchers taking a sociocultural

perspective on learning as it allows for the study of both knowledge construction via collaboration and the use of tools and artefacts in mediating the process.

The use of video in this project was influenced by Knoblauch et al.'s view that video is best used with a mix of other methods. Video focusses on 'actions, interactions and communication' (Knoblauch et al. 2015, p. 131) and so provides an additional point of reference to other methods such as document analysis and interviews. As discussed in Chapter 2, the focus on the themes identified as being representative of a sociocultural approach to pedagogy was chosen partly because they could be made visible in practice in ways that more abstract concepts might not (for example, scaffolding is a practical manifestation of Vygotsky's concept of the ZPD) and so could give insight into pedagogy as enacted and experienced.

Consequently, this study uses video as a way of ascertaining how the actions and interactions displayed relate to the written and spoken views of participants around the pedagogy of the activities being performed. Knoblauch et al. (2015) suggest that video is a useful point of triangulation to the codes and themes that emerge from other methods and, similarly, Schubert (2012) argues that 'video recording and analysis should be considered focusing devices which are embedded within a larger context of multiple methods, ranging from participant observation to interviews and producing very detailed accounts of selected phenomena in the field' (p. 124).

As video data were collected in order to analyse pedagogy as enacted and experienced, during observation sessions the camera was positioned to 'find the action' (Heath et al., 2010). Video data were collected using a handheld digital camera. In classroom or group study situations this meant that it was placed in a fixed position towards the back of the room so that all participants and their focus of action (i.e., shared display screen or desk) were visible. Where students were conducting fieldwork the camera was handheld and moved by the researcher to focus on the area of activity, for example, framed to capture both the interviewer, interviewee and recording set up when students were conducting their own research. Approximately, 23 hours of video, covering 20 observational sessions was recorded in this way.

All video recordings were catalogued in an Excel spreadsheet. These formed a broad content log for each session. These logs were then developed, by adding 'sheets' containing more detail, using a process described by Schubert (2012): 'content logs are

not transcripts of a complete tape, but rough descriptions of the filmed situations and may contain references to analytical concepts. The content logs change as the research progresses: they become more detailed when sequences are analysed, which can be seen as a similar process to that of coding' (p. 120). Heath et al. (2010), describe this process of developing the log as a way to 'gather candidate instances of the particular phenomena, actions or organisation under scrutiny. We say 'candidate' since until you have undertaken detailed analysis of the fragments it is unlikely that you will have a robust sense of their character and organisation' (p. 65). Appendix 2 shows a sample video log for one of the groups studied here.

Candidate instances from the log were then considered as possible critical incidents for analysis, as described below.

3.3 Analysis

Documents and interview data were analysed using a flexible approach to theoretical thematic analysis (Braun and Clarke, 2006). Thematic analysis is 'a method for identifying, analysing and reporting patterns (themes) within data' (Braun and Clarke 2006, p. 79). Thematic analysis involves a step-by-step approach to analysing data, with Braun and Clarke identifying six phases of analysis (Table 3.2) moving from coding data as 'a starting point to provide the researcher with analytic leads for further exploration' (Saldana 2013, p. 101) through the identification of interconnections between codes, the development[5] of themes and the finalization of analysis.

Braun and Clarke identify two ways in which themes may be developed – 'themes can be identified in a data-driven, "bottom-up" way, on the basis of what is in the data; alternatively, they can be identified in a more "top-down" fashion where the researcher uses the data to explore particular theoretical ideas, or bring those to bear on the analysis

[5] Although Braun and Clarke use the term 'identify' in relation to themes in their earlier work (2006, 2013) they now feel that it suggests 'finding/discovering themes that pre-existed the analysis' (Clarke, 2018) and that other terms such as 'develop' or 'generate' better 'acknowledge the active role of the researcher in generated themes - themes are the output of analysis, they are not discovered by the researcher' (Clarke, 2018). This study uses these these terms, except when 'identify' is used in quotations.

being conducted' (Braun and Clarke, 2013, p. 178). They refer to these differing approaches as 'inductive' and 'theoretical' thematic analysis (Braun and Clarke, 2006). As seen in Chapter 2, in this study the literature review generated themes that would appear in a pedagogy influenced by a sociocultural perspective and so a theoretical thematic analysis, where coding was applied with reference to specific research questions, was performed, this process being deductive rather than inductive. Although themes had been identified from the literature and were being looked for in the data, following Braun and Clarke's (2006) recommendation on the 'need to retain some flexibility and rigid rules really do not work' (p. 82) there was a desire not to close off the development of themes not previously identified and so coding of the data was left as open and flexible as possible within the confines of the research question.

As was seen in Chapter 2, in addition to the themes generated for sociocultural practice, themes around 'process' and 'assessment' were generated from the literature on student media production. As will be seen in Chapters 4 and 5, the flexible approach to coding presented here allowed these to be included when they became prominent in the analysis of practice.

Table 3.2 - Phases of thematic analysis (from Braun and Clarke 2006, p. 87)

Phase	Description of the process
1. Familiarizing yourself with your data	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Coding and theme development were performed using the six phases of thematic analysis identified in Table 3.2. Interviews and lectures were audio recorded and transcribed by the researcher as a way of becoming familiar with the data (Phase 1). Transcription was intended to produce a full and accurate account of all communication in each interview.

Initial codes were generated (Phase 2) using a descriptive coding technique, where a descriptive word or phrase is used to summarize a section of data with the intention of developing a topic from the data rather than abbreviating the content. Saldana (2103, p. 88) views description as 'the foundation for qualitative enquiry, and its primary goal is to assist the reader to see what you saw and to hear what you heard in general, rather than scrutinise the nuances of people in social action'. For this study, descriptive coding was selected rather than a more open coding techniques as the intention was not to 'provide the researcher with analytic leads for further exploration' (Saldana, 2013, p. 101) that an open technique might do, but instead to broadly apply codes that could be related to those areas that dealt directly with the activities being studied or where discussion appeared to be related to the previously identified theoretical concepts linked to a sociocultural perspective. Entire interview transcripts were coded in this way; for documents only those sections that related, either directly or indirectly, to the activity were coded (for example, passages on assessment from module handbooks were coded, passages relating more widely to institutional regulations were not).

Coding was performed using NVivo qualitative data analysis software (versions 11 and 12). Gibbs (2017) feels that NVivo is suited to projects with a number of data sources, particularly those that are already digital (such as the course documentation or word-processed interview transcripts in this study) and that 'thematic coding approaches are well served by the software' (p. 244). Appendix 3 shows an example of initial coding of an interview in NVivo.

The generation of themes (Phase 3) is intended to 'capture the most salient patterns in the data relevant to your research question' (Braun and Clarke 2013 p. 225). This was done by reviewing codes and the connected data and generating concepts, topics or issues that were common across a number of codes into what NVivo calls 'Nodes' but which can be thought of as themes. For example, codes including 'exchange of ideas', 'group work – problems' and 'peer interaction' were incorporated into the theme 'collaboration', and 'content', 'narrative' and 'quality' were included in the theme

creativity (see Figure 3.1). Braun and Clarke (2013) emphasize that developing themes is an active process – themes do not 'emerge from the data', the researcher is selective. The importance of themes is that they 'should be about addressing the research question, and since you are reporting patterned meaning, some less patterned or irrelevant codes will be excluded' (p. 230). This meant that some codes, such as 'serendipity' and 'humanising technology', that look interesting in their own right, were not developed into broader themes as they were outside of the main research question.

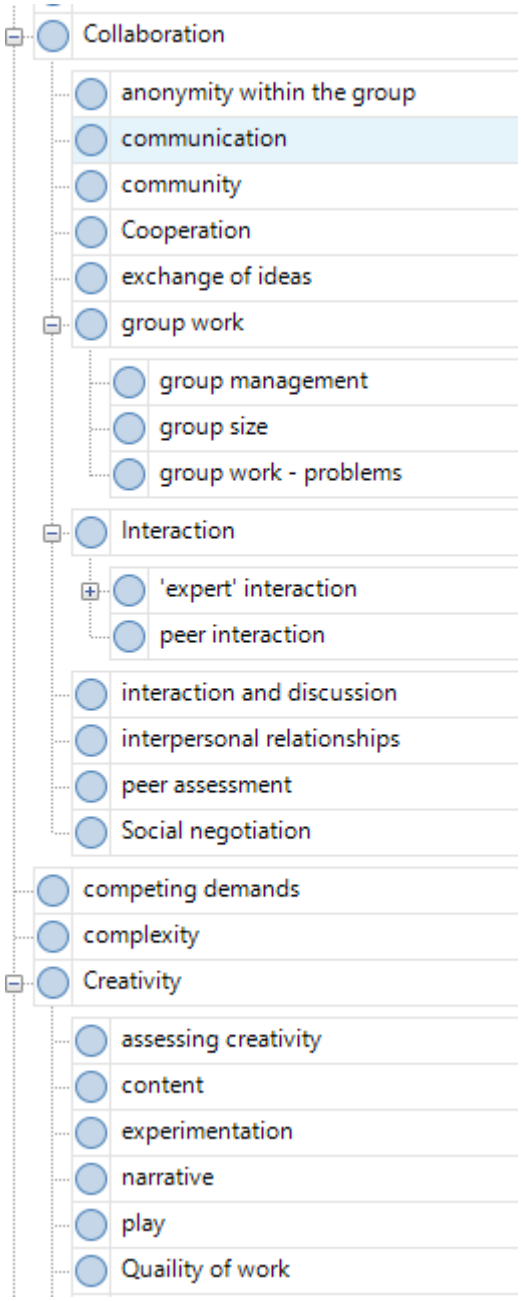


Figure 3.1 - Nodes (themes) and codes in NVivo

Phases 4 to 6 of Braun and Clarke's model were performed iteratively. As theoretical rather than inductive analysis was being used, re-examination of data sources sought to look at whether the codes that had been developed into themes in the software identified meaningful patterns across the different sources and activities. This meant that some linkages that were not visible in the hierarchical NVivo interface became apparent (for example a link between 'agency' and 'creativity'). Phases 5 and 6, generating the 'story' of the research and finalizing the analysis were completed in the writing of Chapters 4 and 5.

3.3.1 Analysis of video data

Given the richness of video data, Heath et al. (2010) suggest that 'it is rarely practical, or fruitful, to try to deal with the whole recording' (p. 66) and that the researcher must be selective and focus on episodes or fragments of the data. Knoblauch et al (2015) emphasize that 'the point is not to deal only superficially with data quantities as large as possible. Instead, with an eye towards interpretation, central sequences must be identified, analysed, and compared with each other in a purposeful way'. (p. 94). They go on to suggest that analysis is best performed on a series of clips ranging from several seconds to a few minutes.

As described above, following the practice described by Schubert (2012) and by Heath et al. (2010), the practical analysis of the video material followed a three-step process:

- Firstly, all recordings were catalogued using Excel spreadsheet software, including simple descriptions of the context and content.
- Secondly, bearing in mind the need to focus on particular fragments, 'candidate' instances for further review were identified for each participant group. The critical incident technique was used to identify video clips for analysis (see below).
- Finally, a search across the selected data for all groups was performed to identify and group together those that reflected similar characteristics – Heath et al. (2010) recommend this approach as the collections generated 'become the principal data used during analysis and … enable you to compare and contrast organisation of activities in different occasions and circumstances' (p. 65).

This second part of this process resulted in a total of 16 clips being analysed (Knoblauch et al (2015) suggesting that a clip can last from a few seconds, with 3 minutes being a

practical upper limit for meaningful analysis). These clips were further narrowed down in the final part of the process to the 8 critical incidents presented in Chapter 5.

3.3.2 Critical incident technique

As mentioned above, a deductive or theoretical approach using thematic analysis was used to analyse data related to pedagogy as specified and, partially, pedagogy as enacted. The critical incident technique was used to identify candidates for analysis from the video data collected to analyse those parts of pedagogy as enacted that were observed (i.e., activities of the teacher) and pedagogy as experienced (observation of student activity) . A brief section follows describing the technique, followed by the criteria for clip selection and then information on how these were analysed.

Critical incident technique (CIT) was initially described by Flanagan (1954) in the context of industrial and organizational psychology but it has developed to be used across a number of disciplines and to 'become a widely used qualitative research method [that] today is recognized as an effective exploratory and investigative tool' (Butterfield et al. 2005, p. 475).

3.3.2.1 Identifying and analysing critical incidents

Amongst the features of CIT identified by Butterfield et al. (2005) are:

- 'Focus is on critical events, incidents, or factors that help promote or detract from the effective performance of some activity or the experience of a specific situation or event'
- 'Data analysis is conducted by determining the frame of reference, forming categories that emerge from the data, and determining the specificity or generality of the categories' (p. 483).

This definition of a 'critical' incident as one that promotes or detracts from performance or experience is rather less strong that Flanagan's original definition of an 'incident' as '*extreme* behaviour, either *outstandingly* effective or ineffective with respect to attaining the general aims of the activity' (pp 337-338) [emphasis added]. Tripp (2012) moves away from this language of exception to say that:

> *The vast majority of critical incidents, however, are not at all dramatic or obvious: they are mostly straightforward accounts of very commonplace events that occur in routine professional practice which*

> *are critical in the rather different sense that they are indicative of underlying trends, motives and structures. These incidents appear to be 'typical' rather than 'critical' at first sight, but are rendered critical through analysis.* (Tripp 2012, pp 24-25)

This suggests that the identification of a critical incident is one that exemplifies a wider truth about the situation in which it occurs. Flanagan, working in a largely positivist paradigm, attempted to identify an objective 'truth' through identifying incidents as 'having special significance and meeting systematically defined criteria' (p. 327). He described the importance of giving precise instructions to observers 'with respect to the standards to be used for evaluation and classification' (p. 337). Chell (1998) notes that Flanagan assumed a '"concreteness" about reality' (p. 53) where the purpose, effectiveness and evaluation of incidents is clear and can be assessed objectively. Tripp, on the other hand, in line with the qualitative approach being taken in this study, emphasizes a more subjective approach to identifying critical incidents where the observer's position in identifying 'truth' is more readily acknowledged:

> *critical incidents are not 'things' which exist independently of an observer and are awaiting discovery like gold nuggets or desert islands, but like all data, critical incidents are created. Incidents happen, but critical incidents are produced by the way we look at a situation: a critical incident is an interpretation of the significance of an event. To take something as a critical incident is a value judgement we make, and the basis of that judgement is the significance we attach to the meaning of the incident.* (Tripp 2012, p. 8)

In a conception that echoes Butterfield et al.'s (2005) description of incidents as events that 'promote or detract from the effective performance of some activity', Anastopoulou et al. (2008), building on the earlier work of one of the co-authors (Sharples, 1993), describe how the critical incident technique can be used to identify breakthroughs and breakdowns in teaching and learning activities: 'Breakthroughs are observable critical incidents which appear to be initiating productive new forms of learning or important conceptual change. Breakdowns are observable critical incidents where a learner is struggling with the technology, is asking for help, or appears to be labouring under a clear misunderstanding.' (p. 4).

Based on Heath et al.'s (2010) suggestion that clips for selection 'will emerge from an initial review of the materials, even from the fieldwork that may have preceded or accompanied the recording, where particular activities or events will have been seen to recur or just happen to look interesting and worthy of further attention' (Heath et al. 2010, p. 66), initial 'candidate' critical incidents for this study were identified using the researcher's field notes that were gathered contemporaneously with the video recording (see Appendix 4 for an example of these field notes). Incidents that appeared to fulfil Knoblauch et al.'s (2015) broad principles for selecting clips – relevance to the research question and recurrence – and that were considered by the researcher as potentially representing breakthroughs and breakdowns were viewed in the video recordings and considered for inclusion in the analysis as described below.

3.3.2.2 The structure of CIT

Flanagan suggested a five-step procedure for the CIT:

- ascertaining the general aims of the activity being studied
- making plans and setting specifications
- collecting the data
- analysing the data
- interpreting the data and reporting the results.

Aims of the activity

Butterworth et al.(2005) suggest that as the aim of CIT is to create a description of an activity it is vital to initially determine the aim of that activity: 'no evaluation of specific behaviours are (sic) possible without a general statement of objectives' (Flanagan, 1954, p. 10). This step should identify '(1) what is the objective of the activity; and (2) what is the person expected to accomplish who engages with this activity' (p. 478). For this study, these outcomes were determined from the analysis of the 'pedagogy as specified', described above.

Specifications

This refers to the context and plans under which the study will take place. For Flanagan this included elements of co-ordination and standardization across a number of researchers that are, obviously, not relevant to this study. As seen above, analysis of practice was used to address the second and third elements in Nind et al.'s (2016)

framework (pedagogy as enacted and pedagogy as experienced) and this was done through video recorded observation and interviews. Three of Flanagan's suggested specifications were relevant to this study:

- *Situations observed* – this refers to the 'the place, the persons, the conditions, and the activities' to be observed. For this study this was students in the pre-production, production and post-production stages of making a video.
- *Relevance to general aim* – this is deciding whether an activity to be observed is relevant to the specified outcome. In this study all activities linked to video production were considered to be relevant and so were included in observation.
- *Extent of effect on general aim* – related to identifying a critical incident, this is assessing whether an activity has either a positive or negative impact on achieving the specified objective. As stated above, in this study this was done by assessing field notes to help to identify 'candidate' critical incidents that represented breakthroughs or breakdowns in learning before further refining selections for analysis as described below.

Collecting the data

Flanagan's original emphasis on identifying and analysing critical incidents was through the use of observation. While Butterfield at al. (2005) suggest that observation may have dwindled in popularity as a method as it is 'very labour intensive and therefore expensive to gather data in this way' (pp 480-481), the use of video as a data collection tool offers a

> *cheap and reliable technology that enables us to record naturally occurring activities as they arise in ordinary habitats, such as the home, the workplace or the classroom. These records can be subject to detailed scrutiny. They can be repeatedly analysed and they enable access to the fine details of conduct and interaction that are unavailable to more traditional social science methods.* (Heath et al. 2010, p. 2)

The use of video therefore allows observation to re-emerge as a central feature of the CIT and, as described above, participant observation in this study was largely done through the collection of video data.

Analysing the data

Butterworth et al (2005) state that 'one of the hallmarks of the CIT is the formation of categories as a result on analysing the data' (p. 481) with Flanagan describing analysis as:

> *The usual procedure is to sort relatively small samples of incidents into piles that are related to the frame of reference selected. After these tentative categories have been established, brief definitions of them are made and additional incidents are classified into them.* (Flanagan 1954, pp 344-345)

CIT analysis involves a process of moving from the specifics of the incident (generating initial codes) to the general characteristics that reveal a meaning that makes it 'critical' (generating themes):

> *The critical incident is created by seeing the incident as an example of a category in a wider, usually social, context. …To create a critical incident one would have to say what the incident meant, which means moving out of the immediate context in which the incident occurred*. (Tripp 2012, p. 25)

Given the similarity of this approach to thematic analysis, for this study, once critical incidents were identified, analysis, through coding and the development of themes, was done using a thematic analysis method similar to that described above. In the case of video analysis, due to constraints of the tool, coding was not performed in NVivo, but was initially done in the Excel video 'log', where each clip was given a sheet and coding done against a time stamp in the video. The identification and application of themes was further developed as the analysis was written up.

The identification of incidents and decisions around whether they were of relevance to the research questions represented a slightly different approach than the deductive analysis described above, however. In a process that maps roughly to Braun and Clarke's (2006) framework (Table 3.2), an inductive approach was taken for video analysis – observations of breakdowns and breakthroughs in learning were identified and then, through a process of inductive analysis, a theory of the causes of each was identified. Those breakdowns or breakthroughs where the causes were felt to be related to the previously identified themes were then considered as 'candidate' incidents. In order to make the data manageable and to explore the themes further, those incidents that

showed connections between themes, for example collaboration and creativity, were separated into video clips and were then subject to the later stages of Braun and Clarke's framework for thematic analysis (Table 3.2), as described above.

This approach was taken as it was felt that classroom or student activity was more spontaneous and less planned than the data sources analysed for pedagogy as specified. Pedagogy as enacted and experienced represent the instantiation of the specified curriculum and so it is useful to consider how they act as aids or inhibitors to learning in the practice being considered. This mixed methods approach also allows for a degree of validation across the study as it considers whether and how the themes identified are manifest in practice and what effect they have.

The above process resulted in 8 critical incidents being finalized for analysis – these are presented in Chapter 5.

3.4 Quality and limitations

As this research takes an exclusively qualitative approach, there is an acknowledged focus on the specific contexts described and only loose claims around how findngs may be transferable to another setting. This research does not seek to identify 'what works', or to offer a predictive model, instead it aims to present an authentic picture of practice and, through analysing the pedagogical approaches being used from a sociocultural perspective, to present a plausible and credible interpretation of that practice from that viewpoint. This being the case, quality assurance in the study took a two-pronged approach to establishing quality and 'trustworthiness' – the use of criteria suggested by Lincoln and Guba (1985) for general qualitative (or 'naturalistic') research, and the use of criteria specific to thematic analysis suggested by Braun and Clarke (2006) and Nowell et al. (2017).

Lincoln and Guba (1985) developed a set of criteria (credibility, transferability, dependability and confirmability) that were intended to create an equivalent to those criteria that are widely used to assess quantitative research -– 'the four terms "credibility", "transferability", dependability", and "conformability" are then… the… equivalents for the conventional terms "internal validity", "external validity", "reliability" and "objectivity".' (Lincoln and Guba 1985, p 300). Table 3.3 presents these criteria, including a brief description and an explanation of how they were applied in this study.

Table 3.3 - Lincoln and Guba's (2005) criteria for the 'trustworthiness' of qualitative research

Criteria	Description*	Application in this study
Credibility	The notion that study results should be convincing and, therefore, able to be believed. Findings represent some sense of reality and account for the context in which research takes place.	*Triangulation* The use of two or more data sources to identify and confirm a knowable 'truth'. In context-dependent qualitative research it can be used in an attempt to get 'a richer or fuller story, rather than a more accurate one' (Braun and Clarke 2013, p. 286). Through the use to Nind et al.'s 3-stage framework this study naturally uses triangulation through different participant perspectives, data sources and methods.
Transferability	Findings may have applications in other contexts and settings.	Responsibility for assessing the transferability of the study lies with the reader and their assessment of its applicability to their situation. To enable this decision to be made a clear exposition of methodology and description of context is given in this study – 'the thick description necessary to enable someone to reach a conclusion about whether transfer can be contemplated as a possibility' (Lincoln and Guba, 1985, p. 316).
Dependability	Readers are able to examine the research process.	The research process is clearly described and documented. That process is logical and coherent.
Confirmability	Researcher's interpretations and findings are clearly derived from the data, requiring the researcher to demonstrate how conclusions and interpretations have been reached.	An 'audit trail' is included for the study – this includes examples of raw data (appendices), description of the process of data reduction (Chapters 3, 4 and 5) and the products of analysis (Chapters 4 and 5), examples of data reconstruction and synthesis (Chapters 4 and 5), a clear presentation of the theoretical approach (Chapter 2)

*Descriptions are adapted from Savin-Baden and Major, 2013 and Nowell et al., 2017

In addition to the overall quality of the research, we can assess the quality of the thematic analysis. Braun and Clarke's produced a 15-point checklist of criteria for good thematic analysis and Nowell et al (2017) categorized the techniques that might be used to demonstrate trustworthiness in each of the six phases presented in Table 3.2. These two approaches are summarized in Table 3.4).

Table 3.4 - Quality in thematic analysis

Phase of thematic analysis	Criteria for good thematic analysis (adapted from Braun and Clarke 2006)	Means of establishing trustworthiness (adapted from Nowell et al., 2017)*
1. Familiarizing yourself with your data	*Transcription* The data have been transcribed to an appropriate level of detail and the transcripts checked against the tapes for 'accuracy'.	Prolonged engagement with data. Triangulate different data collection modes. Document thoughts about potential codes/themes. Store raw data in well-organized archives. Keep record of all data field notes.
2. Generating initial codes	*Coding* Each data item has been given equal attention in the coding process. Themes have not been generated from a few vivid examples but instead the coding process has been thorough, inclusive and comprehensive. All relevant themes from each extract have been collated. Themes have been checked against each other and back to the original data set. Themes are internally coherent, consistent and distinctive.	Reflexive journaling. Use of a coding framework. Audit trail of code generation.
3. Searching for themes		Diagramming to make sense of theme connections. Keep detailed notes about development and hierarchies of concepts and themes.
4. Reviewing themes		Test for referential adequacy by returning to raw data.
5. Defining and naming themes		Documentation of theme naming.
6. Producing the report	*Analysis* Data have been analysed rather than just paraphrased and described. Analysis and data match each other – the extracts illustrate the analytic claims. Analysis tells a convincing and well-organized story about the data and topic. A good balance between	Member checking. Describing the process of coding and analysis in sufficient detail. Thick descriptions of context. Description of the audit trail. Report on reasons for theoretical, methodological and analytic choices throughout the entire study.

	analytic narrative and illustrative extracts is provided. Enough time has been allocated to complete all phases of the analysis. *Written report* The assumptions about and specific approach to thematic analysis are clearly explicated. There is a good fit between what is claimed to be done and what is shown to be done – described method and reported analysis are consistent. Language and concepts used in the report are consistent with the epistemological position of the analysis. Researcher position is active – themes do not 'emerge'.	

*Some of Nowell et al.'s (2017) criteria relate to ensuring reliability among co-researchers (such as triangulation among researchers on code and theme development). As they are not applicable to this study they have been omitted from this table.

All of the Braun and Clarke's (2006) criteria (column two of Table 3.4) have been applied to this study and should be visible in this chapter and in Chapters 4 and 5. As noted in the table, some of Nowell et al.'s criteria were concerned with researcher groups and so have not been included, but the coding, theme development and data auditing processes have been described and shared as suggested. One of the criteria suggested by Nowell et al. (2017) is member checking ('the practice of checking your analysis with your participants' (Braun and Clarke, 2013, p. 282)). This was not performed for this study for a number of reasons. Firstly, as stated above, qualitative research does not claim to identify the one objective truth of the situation being studied and 'requires interpretative activity; this is always informed by our own assumptions, values and commitments' (Braun and Clarke, 2013, p. 285). Participants are unlikely to be familiar with the theoretical approach being applied to the study and therefore the assumptions behind their interpretations may not be clear and so 'participants' approval cannot 'prove' or 'disprove' the analysis' (Braun and Clarke, 2013, p. 285). In addition, the concept of member checking assumes that participants 'are the ultimate authority on, and have complete insight into, their experiences' (Braun and Clarke, 2013, p. 285) while researchers may 'view participants' experiences from a different angle to what they do' (Braun and Clarke, 2013, p. 285). For

these reasons it was felt that member checking was not appropriate for this study and that the other quality criteria presented in Table 3.4 were sufficient.

While all interview data was transcribed and analysed in full by the researcher, the video data were analysed only in part, with clips being identified and selected as described above. Knoblauch et al (2015) state that 'the selection of suitable sequences has an openness… it remains a process that is guided by trial and error' (p. 94) and it is acknowledged that, as with other interpretation, the selection and analysis are influenced by the researcher and that other selections and interpretations are possible. As noted above, the intention of presenting the detail of the analysis is that it can be shown to be persuasive and trustworthy.

3.5 The study

3.5.1 Identifying participants

As suggested above, the purpose of identifying instances of practice to research 'is not to make generalizations, not to make comparisons, but to present unique cases that have their own intrinsic value' (Cohen et al. 2011, p. 161). For this approach participant selection is based on specific criteria and samples are small but are studied intensively generating a lot of data. Participants are not intended to be representative of anything other than their specific context and, as acknowledged above, any generalizations arising from the study will be analytic rather than statistical.

As shown in Chapter 2, sociocultural pedagogy emphasizes elements such as agency, collaboration, participation, creativity and reification. Planning of this research, therefore, sought to identify situations where teachers and students were working on learning activities that used digital video in ways that appeared to place an emphasis on communication, people-to-people interactions, people-to-technology interactions, the use of tools and the creation of artefacts. The researcher used a purposive sampling approach where settings, participants and activities were identified before the study commenced in the expectation that they would illustrate 'some feature or process in which we are interested' (Silverman 2014, p. 60). The criteria for selection were contexts where students were undertaking projects involving the production of digital video that involved active participation and group work as the focus of study. This process resulted in four activities at two universities being identified for inclusion in the study. Academic and support staff at both institutions were approached initially and, on their agreement

to participate, student volunteers were sought from the four student cohorts involved. As a result, the participants in this study comprised four academics, one member of academic support staff and 19 students, in four subject groups at two higher education institutions in the UK. In order to preserve anonymity the institutions and participants involved are given pseudonyms throughout this study.

Cohen et al. (2011) suggest that investigating similar phenomenon in different settings allows for the possibility of greater generalizability. As acknowledged above, in this context the concern 'is not so much for a representative sample… so much as its ability to contribute to the expansion and generalization of theory…, which can help researchers to understand other similar cases, phenomena or situations' (p. 294) and that the researcher 'whilst not necessarily being able to extrapolate on the basis of typicality or representativeness, can extrapolate to relevant theory… and, by implication, to testing of that theory' (pp 294-295).

Ethical approval was gained from the Human Research Ethics Committee of The Open University in January 2014 and the study adheres to the British Educational Research Association guidelines concerning educational research (BERA, 2018). All participants gave written informed consent and all participant data is presented anonymously. Participants had a right to withdraw up to the point that data was anonymized during analysis and data (including video and audio recordings) were held on a secure, password-protected server. See Appendix 5 for an example of a participant permissions form.

3.5.2 Group 1 – Management

3.5.2.1 Group 1 context

Group 1 consisted of six postgraduate students in the Management School of University A. This group were selected as they were taking part in an activity where they were asked to produce a 'digital visual report' which was assessed summatively. The participant observation was carried out in March and April of 2014 when the student participants were undertaking a module in business policy – the module looked at business values and attitudes particularly in relation to non-conventional companies such as social enterprises and cooperatives and considered the role of these organisations in local development. Students undertaking the module were enrolled in one of three one-year taught Masters programmes in Business or Management. The taught Masters programmes consist of six modules studied over two semesters followed by a dissertation. The students were studying full-time at the University and were in the second semester of study. This

module aimed to build on study from the previous semester by 'bringing socio-economic development issues … to life by bridging the theory, the policy as well as the practice of shaping business and activities'.[6] As well as subject-specific topics, the students were also studying a module in Research Methods in this semester in preparation for undertaking their dissertations.

3.5.2.2 Group 1 participants

There were six students enrolled in the module and five of them were participants in this research (one student dropped out of the module before the video activity commenced) (Table 3.5). As can be seen from Table 3.5, under the definition of the UK's Universities and Colleges Admissions Service (UCAS, undated) all would be considered to be mature students. All students were 'international' students from outside the UK. The module was taught by one academic member of staff who was supported by a member of academic support staff (Table 3.6).

Table 3.5 - Group 1 student participants

Participant	Gender	Age
ManStudent1	F	24
ManStudent2	F	24
ManStudent3	M	24
ManStudent4	M	24
ManStudent5	M	30

Table 3.6 - Group 1 staff participants

Participant	Role
ManagementAcademic	Lecturer within the Management School responsible for the design and delivery of the module
AcademicSupport	Provided guidance on the technical and practical elements of the activity described here, such as software choice and use, searching for images and copyright issues

[6] All quotations in this chapter and in Chapter 4 that are not otherwise attributed are taken from module documents supplied to the students at University A and University B. In order to preserve anonymity these documents are not included in the reference list.

3.5.2.3 Group 1 activity

As part of the summative assessment for the module, students were asked, as a group, to design and implement 'a case study analysis focused around [a local] social enterprise operating in the creative industries sector. The study was aimed at generating an analysis of 'how [the enterprise's] structure and activities contribute to community welfare'.[7] As data sources the students were asked to collect images and/or short videos and to conduct interviews and/or focus groups. These data were to be used for two assessed pieces of work. The first of these was a 'digital visual report', produced as a group. This report was described as 'a 3 to 5 minutes short film that presents (using images, subtitles, and voiceover) the outcomes of the group research'. The second assessment was an individual written essay of 1500-2000 words where students could 'explain in detail the type of background, concepts and line of argument that have shaped the visual essay, as well as to discuss results and provide some recommendations to the organisation or at policy level, depending on the focus'. Each of these assessments was weighted at 25% of the overall mark for the module, with the other 50% being assessed via an end-of-module exam.

3.5.2.4 Group 1 data collection

Data collection took the form of interviews and observations as well as the examination of artefacts connected to the activity. Only one document, the Module Handbook, described the course content and the assessment and so this was the only document analysed. The Handbook covered the aims and objectives of the module, the module structure and timetable, assessment methods and the reading list.

Interviews were conducted as follows:

- Two semi-structured face-to-face interviews were conducted with the academic coordinating the module (ManagementAcademic) – one of these occurred prior to the activity and one after its completion and the marking of both connected assessments. The initial interview lasted 34 minutes and was concerned with the design and background of the activity (pedagogy as specified), while the follow-up interview lasted 57 minutes and considered how the activity had gone in practice

[7] The text in brackets here is included to preserve the anonymity of the organisation involved.

(pedagogy as enacted). Both interviews were transcribed in full and analysed as described above.

- One semi-structured interview was conducted with the member of academic support staff who worked on the project (AcademicSupport) and this occurred after completion of the activity. This interview lasted 29 minutes and considered the design and practical implementation of the activity (pedagogy as specified and enacted).

- Semi-structured interviews with four of the students were conducted after completion and marking of both assessments (two student participants were unable to attend for interview). These ranged in length from 16-25 minutes and were intended to gather the students' thoughts about the activity (pedagogy as experienced).

In week 6 of the module, after the students had attended lectures on some of the module themes (community development, social capital and social enterprise) the students had a guest lecture from a director of the social enterprise being studied. Following this lecture, ManagementAcademic held a seminar where, amongst other things, she described the project. The seminar was videoed for this research project.

Following this, students were observed in group settings on nine days during the briefing, planning, production and post-production stages of the video project. Observations took place in classrooms, on location with the organization being studied and in group study rooms in the university. Each observation session was videoed with the camera being positioned so that the students and the tools that they were working with could be recorded. The researcher was present during filming and took contemporaneous field notes. These notes were then used to identify candidate clips for critical incident analysis. As described above, the criteria used to identify clips was where an action represented a breakdown or breakthrough in learning that were related to or connected the themes identified in Chapter 2. These data consist of over 13 hours of recordings and in total 11 clips were identified for initial analysis.

3.5.3 Groups 2 and 3 – Sports Studies

3.5.3.1 Groups 2 and 3 context

Two groups of undergraduate students studying different modules in Sports Studies at University A formed Groups 2 and 3. They have been grouped together here as they were

taught by the same academic and their activities were very similar. In both modules students were asked to produce a 'group digi-essay' which was assessed summatively. The research was carried out in September and October 2014 for Group 2 and in February to March 2015 for Group 3. The module studied by Group 2 was a wide-ranging second-year undergraduate module that had four main strands – the sociology of sport, finance and business in sport, sports science and contemporary sports practice. Approximately 300 students were enrolled in the module – around half of these were studying for a sports-related degree, with the others enrolled as an optional module as part of another undergraduate degree programme. The students in Group 3 were studying a third-year undergraduate module considering physical education (PE) and sport for young people in which approximately 75 students were enrolled. This module considered the subject from the perspectives of education, leisure and lifestyle, youth culture and crime prevention.

3.5.3.2 Groups 2 and 3 participants

The participants in Groups 2 and 3 are shown in Table 3.7. The students all came from the UK, were all studying full-time and only two students from Group 2 would have been considered as 'mature' students at the beginning of their studies (UCAS, undated). In both activities students worked in groups of 4 or 5 and one group of volunteers from each module was sought to participate in this research.

Both modules were coordinated by the same academic member of staff, a Lecturer within the School of Sport, who designed the activities being studied here. Some lectures and seminars on both modules were given by other members of the school academic team. Support on the technical and practical elements of the activity described here was given by the same member of academic support staff as for Group 1 (Table 3.8).

Table 3.7 - Groups 2 and 3 student participants

Participant	Gender	Age
Group 2 - UG Year 2		
SportG2-Student1	F	33
SportG2-Student2	F	25
SportG2-Student3	M	20
SportG2-Student4	M	20
SportG3- Student5	M	22
Group 3 – UG Year 3		
SportG3-Student1	F	21
SportG3-Student2	F	21
SportG3-Student3	F	21
SportG3-Student4	F	21

Table 3.8 - Groups 2 and 3 academic participants

Participant	Role
SportAcademic	Lecturer within the School of Sport responsible for the design and delivery of the modules for both Case Studies 2 and 3
AcademicSupport	Provided guidance on the technical and practical elements of the activity described here, such as software choice and use, searching for images and copyright issues

3.5.3.3 Groups 2 and 3 activities

As part of the summative assessment for the module, students in Group 2 were asked to work in small groups of 4 or 5 to 'to complete a digi essay of 3 minutes in length' on one of two topics related to the sociology strand of the module:

- 'What steps are being taken to progress towards achieving gender equity in sports participation?'
- 'What is racial ideology and how does sport reinforce or challenge it?'

This assessment was weighted at 40% of the overall mark for the module, with the other 60% being assessed by a short written piece and either a multiple-choice exam or wiki activity depending on which module strand the student wished to follow.

Students in Group 3 were required, as part of the summative assessment for the module (with a weighting of 35% of the total mark) to work in small groups to produce a 10-minute 'digi essay'. The students were to advocate the case for the inclusion of one of a list of non-traditional sports in the school PE curriculum.

The other assessment elements in this module were a 500-word written report (15%) and an examination (50%).

In both cases students initially attended a lecture introducing the activity and the technology being used. This was followed up by a 1-hour supported 'hands-on' session in a computer lab. Students were asked to write and record a script and to combine this with images that they had collected. Following production of the 'digi essay' students undertook a peer-marking exercise where they awarded marks to individuals within the group and supported these with short comments.

3.5.3.4 Groups 2 and 3 data collection

Data collection took the form of interviews and observations as well as the examination of artefacts connected to the activities, such as the module handbooks and other supporting material.

Interviews

Interviews were conducted as follows:

- Two interviews with the academic coordinating the modules conducted after the completion and marking of each of the assessments (pedagogy as specified and enacted). The interviews were 37 minutes and 27 minutes long.
- One interview with the member of academic support staff who worked on both activities and was interviewed after their completion (pedagogy as specified and enacted). This interview was 29 minutes long.
- Group 2 - Interviews with three of the students (SportG2-Student1, SportG2-Student3 and SportG2-Student4) after completion and marking of the assessments (pedagogy as enacted and experienced). (Two students from this group were unavailable to attend interviews during the study period.) The interviews were 22, 22 and 15 minutes long.
- Group 3 - Interviews with two of the students (SportG3-Student1 and SportG3-Student2) after completion and marking of the assessments (pedagogy as enacted and experienced). (Two students from this group were unavailable to attend interviews during the study period.) The interviews were 18 and 19 minutes long.

As above, interviews were semi-structured. The researcher had a list of topics around which the interview was framed, but the conversation was allowed to develop without following a rigid structure. Interviews were audio recorded and a transcript produced by the researcher from the recording. Transcripts were then coded and analysed as described above.

Artefacts

Documents

Documents examined for both groups were as follows:

- The *module handbook* – this contained an overview of the module content, the teaching methods employed and details of the assessment activities. The module

handbook contained mostly practical information about the module and its delivery. It included a brief description of the module content, specified the intended learning outcomes and, separately, listed 'general transferable skills' that the module would develop:

- academic learning outcomes, where verbs such as 'describe', 'analyse', 'explain' and 'examine' were used to describe how students should be able to respond to the module content
- 'general transferable skills' which were more generic academic, interpersonal and technical skills, such as 'research skills', 'communication, teamwork and presentation skills', 'information technology skills' and 'skills of critical appreciation'.

In addition, the handbook described the assessment tasks, including the video assignment, and gave details of the marking breakdown for each.

The description of the assessment activities in the handbook was purely practical, describing the grading and including a one-sentence description of the task. It did, however, refer the student to further documentation that gave more detail on the tasks.

- The *assignment task description* – for Group 3, for example, this document, shared with students via the University's VLE, gave detail of the academic content to be included in the video assessment. It described the topic to be covered in the video, where students are expected to 'argue the case for the inclusion in the school PE curriculum for one of the sports listed'. It also suggested four areas that students should consider in making their argument ('The place of PE in the school curriculum (its aims and objectives); The ways in which the chosen activity meets these aims; The limitations associated with trying to provide this activity; The methods by which these limitations can be overcome').
- Beyond saying that 'students are required to work in small groups to produce a 10 minute (maximum) digi essay', the document gave no more detail about the task other than practical information about submission dates and formats. In addition to the video, students were expected to submit for marking the full script, a reference list and an 'assets' list' (a list of copyrighted material that has been used,

including acknowledgement of sources). Students were asked to submit these files to the Turnitin similarity checking service.

- The *assignment task guidelines* – this document expanded on the basic task description and gave greater detail about the expected content and structure. The assignment task guidelines repeated the assignment instructions from the module handbook and the task description document but went into more depth on the four areas suggested for inclusion. Each of these is afforded a description, of two to four sentences, of what should be included, e.g.,

  Groups should describe the nature of the chosen activity. This may involve a description of the rules, culture and suggested outcomes of the activity. Groups should also reflect on how these might help to achieve the aims of Physical Education. This section may draw on some of the topics covered in the lectures on this theme of the module.

- Students were also supplied with a marking guide that showed the relative weighting of marks for each element of the assignment:
  - Structure 20%
  - Knowledge and Understanding 25%
  - Critical analysis 15%
  - Use of evidence 20%
  - Presentation literacy and referencing style 10%
  - Peer review 10%
- The *assignment task marking guide* – this gave the breakdown of marks allocated to each criterion for the assessment
- *Peer review guidelines* – this explained to students how the peer review process worked. The document contained a step-by-step guide to how the peer review should be performed. Students were asked to complete a form for each group member allocating marks against a number of criteria (communication, time management and organisation, effort and support of other, reliability and responsibility).

- *Peer review marking guide* – this provided a marking scheme for students to use in the peer marking process. The guide consisted of a completed marking form showing what students should consider when allocating marks – for example, under 'time management and organisation', students are told their marks: 'should reflect how good the person was at keeping to deadlines and completing preparation work. Things to consider include:
    - Attending group meetings
    - Arriving at group meetings on time
    - Preparing thoroughly for group meetings by completing any preparation work agreed upon with the rest of the group'.

Lecture recordings

There were two lectures where the assessment activity was discussed – an introductory lecture that set the scene for the module, including a section on module assessment, and a lecture specifically devoted to the assessment activity. For both groups these lectures were recorded (as a video file containing the slides and audio) and transcripts were produced automatically via audio transcription software built into the video platform. As part of this analysis these transcriptions were checked and edited where necessary – as well as allowing errors to be corrected (automatic transcription not being wholly accurate) this also allowed for familiarization with the data as described in Phase 1 of Braun and Clarke's (2006) model of thematic analysis. The transcripts were then coded using NVivo 11 software.

Observation

Observations were conducted at all stages of the activities, including during lab-based sessions, group planning meetings and during the editing and production phases. All of the observations were video recorded and these data consist of approximately 4.5 hours of recordings for Group 2 and 5.25 hours of recordings for Group 3.

For Group 2, students were observed in group settings on five days during the production of the video presentation. For Group 3, observation was over four days. These group meetings took place in small study rooms in the university library. The observations were video recorded, with the camera being positioned near the rear of the room so that the students and the digital tools that they were working with (mostly a PC with a shared monitor) could be recorded. As described above, the researcher was present during

filming and took field notes that were then used to identify candidate clips for critical incident analysis. The criteria used to identify clips were where an action represented a breakdown or breakthrough in learning that appeared to be related to or to link the themes identified in Chapter 2. In total of 9 clips were identified for initial analysis.

3.5.4 Group 4 – Computing and IT

3.5.4.1 Group 4 context

Group 4 consisted of students studying an introductory undergraduate computing module at a distance at University B. Module content was delivered via a mixture of online and printed resources with group activity and communication mediated through asynchronous communication in a discussion forum. Optional face-to-face and online tutorials (delivered via webinar software) were available. The module being studied was a wide-ranging introduction to computing and information technology, which included consideration of the social impacts and influences of technology as well as technical content. It included elements of programming, the use of a number of software tools and using computers for creative work. As it was an introductory module it also emphasized the development of students' study skills. The module formed a compulsory part of a number of qualifications in Computing and IT for which the student participants were registered.

3.5.4.2 Group 4 participants

Group 4 consisted of four students recruited as volunteers from a study group of 15 taking part in the module from February to October 2014 (Table 3.9). The participants were all male and aged from 31 to 42. The students all came from the UK and were studying part time at a distance. The nature of their university study meant that they were returning to formal education after a break of some years – two were new to university study and two had completed other undergraduate modules.

The nature of module development at University B is that content is produced by a central academic team but student support is delivered by local tutors. The academic participants in this group were the module chair, who oversaw the production and management of the module, and the academic who developed the particular activity being studied (Table 3.10).

Table 3.9 - Group 4 student participants

Participant	Gender	Age
CompStudent1	M	42
CompStudent2	M	31
CompStudent3	M	41
CompStudent4	M	37

Table 3.10 - Group 4 academic participants

Participant	Role
CompAcademic1	Lecturer within the Department of Computing responsible for the chairing the production and management of the Group 4 module
CompAcademic2	Lecturer within the Department of Computing responsible for developing and writing the section of the Group 4 module being studied in this research

3.5.4.3 Group 4 activity

As part of the final block of work on the module, students were guided through online material to complete a number of activities that led towards the creation of a video presentation that included audio and images. This work was done individually but, once the video presentation was complete students shared their work in an online space accessible to their study group. The online platform allowed students to comment on each other's work and students were asked to do this. Students also participated in a synchronous online 'chat' session where they viewed and provided feedback on the videos. The final video, storyboard, comments and thoughts on the review process were then submitted as the fifth of six summative assessment for the module.

For the assessment students were asked to submit:

- 'A shareable multimedia object or a video presentation put together from images and audio files'
- 'The storyboard you created when developing your presentation'
- 'A commentary on the processes involved in creating your presentation'.

In addition to producing the video, students were asked to comment constructively on the videos of two colleagues and to share these comments in their assessment submission. They were also required to summarize the feedback that they themselves received and to identify and share changes that they might have made based on the

feedback received and from looking at the work of others. Lastly, students were asked to share their thoughts on the synchronous and asynchronous tool used in the review process using some of the concepts from the module.

Of the 80 marks available for the assignment, 60 were for this activity. The other marks were for an unrelated programming task.

3.5.4.4 Group 4 data collection

Data collection for this group took the form of interviews and artefacts connected to the module. As this activity was performed at a distance it was not possible for observations to take place. Artefacts analysed were:

- the online teaching material for the task – this part of the module was delivered online via the University's VLE. The teaching material consisted of text, media and activities. The activity studied here was embedded directly into the teaching materials – these were structured in such a way that engaging with the content and completing the specified activities led to the creation of the assessed video.
- the assignment document – this document, shared with students via the University's VLE, gave detail of the academic content to be included in the video assessment
- the marking scheme for the assignment given to the individual tutors who were marking the assignment.

Interviews were conducted as follows:

- Interviews with both academics listed in Table 3.10 (pedagogy as specified and enacted). These were conducted after the particular presentation of the module being studied, which was in the third year of presentation. These semi-structured interviews were conducted remotely via Skype and were transcribed and analysed as described above.
- Interviews with 4 students conducted after the completion and marking of the activity (pedagogy as experienced). These interviews were semi-structured and, given that these students were studying at a distance, were conducted by telephone. The interviews were recorded and transcribed by the researcher with thematic analysis performed as described above.

3.6 Summary

This chapter has presented the methodological decisions made in designing and enacting this research. These decisions were influenced by the nature of sociological theory and, therefore, the study was qualitative in nature, seeking to present an interpretation of practice specific to the context in which it was undertaken. The implications of these choices on analysis and quality were then considered before moving on to think about what they meant for participant identification and selection. Finally, the participants and their contexts were introduced.

Chapters 4 and 5 will present the findings of the analysis described above.

Chapter 4 Findings – Pedagogy as Specified and Enacted

4.1 Introduction

This thesis seeks to answer the research question: how can digital video be used to support a sociocultural approach to teaching and learning in higher education (HE)? In Chapter 2, elements of practice that would be present in a sociocultural approach were identified from the literature (see Table 4.1) and consideration was given to the implied or explicit pedagogy behind the current use of digital video in HE. This identified that much of this use is focused on an acquisition model of learning and that there are no studies applying sociocultural theory to participative video production practice. This thesis fills that gap.

In addition to elements of sociocultural theory, Chapter 2 also developed from the literature the importance of **process** in students learning through the creation of digital video and the difficulty of applying quantifiable and reliable measures for the **assessment** of these projects.

Chapter 3 considered what methodology would be appropriate for investigating sociocultural pedagogy and identified a qualitative approach using thematic analysis and critical incident analysis to assess artefacts, interviews and video observations, using a structured approach that breaks pedagogy down into three components – pedagogy as specified, pedagogy as enacted and pedagogy as experienced. It then introduced the context and participants of the four activities that comprise this study.

Chapters 4 and 5 will look at these activities through the lens of sociocultural theory, using the themes developed from the literature to assess the pedagogical approaches taken and where these contribute to or impede student learning. Chapter 4 considers pedagogy as specified and enacted while Chapter 5 moves on to consider pedagogy as experienced.

Table 4.1 - Elements of practice present in pedagogy influenced by sociocultural theory

- Active participation
- Agency
- Collaboration
- Creativity
- Imagination
- Reflection
- Reification
- Scaffolding
- Signs
- Situated learning
- Tools

As discussed in Chapter 2, the study of pedagogy as specified concentrates on 'the aims and content of what [is] to be taught' (McCormack and Murphy 2008, p. 3). This section, therefore, analyses the interviews that were conducted with the academic staff associated with each activity and the documents and artefacts identified for each group and considers what these tell us about the pedagogical approaches behind the design of each activity.

4.2 Group 1 – Management

The context of Group 1 is described in Section 3.5.2. The use of student-produced digital video for this activity facilitated a participative, situated and collaborative pedagogy where students had agency and room for creativity. While ManagementAcademic did not identify a formal pedagogical theory that influenced the design of the activity her pedagogy is student-centred, seeing students as agentive and active in constructing their own meaning, and so would be placed towards the right of the continuum presented in Figure 2.2. As can be seen from Table 4.2, many of themes present in a practical pedagogy informed by a sociocultural approach were identifiable in the specified and

enacted pedagogy. In addition to the sociocultural themes identified, as discussed in Chapters 2, the importance of process and tensions around the use of digital video for assessment were also apparent.

Table 4.2 - Themes from pedagogy as specified for Group 1

Theme	Comment
Most prominent themes	
Collaboration	Collaboration was considered to be absolutely central to and necessary for the nature of the activity. There was some focus on group working skills and there was a crossover with cooperation, but the nature of the task meant that student collaboration was seen as essential to learning.
Situated learning	This was considered to be central to the task, and to learning. It allowed classroom theory to be witnessed and tested in context and acted as a motivator for students. Working with the subject organisation in context also allowed the development of practical research skills.
Active participation	Active participation was considered to be central to the task and (as was seen in the literature review) was closely linked to the situated nature of the task with students being encouraged to take part in the activities of the organisation while undertaking the project.
Secondary themes	
Agency	Importance was placed on student choice in topic selection and the situated nature of the activity required student self-regulation, which was also considered important for skills development. There was some tension between the ability of students to act agentively with the academic nature of the assessment requirements.
Creativity	Creativity was closely linked to student agency. It was ill-defined but was centred on students expressing knowledge in new ways (using images) within the constraints of an academic framework.
Imagination	While imagination was not explicitly referenced at any point, it was implicit in discussion around students finding new ways of expressing themselves through

	images.
Reification	Emphasis was placed on students making meaning through images.
Signs	Again, there was a focus on image use as a way of expressing concepts.
Less prominent themes	
Tools	Using tools for image selection and video and audio editing was presented as a secondary consideration with a focus on skills development rather than recognition of their importance to meaning making.
Scaffolding	While not expressed using the term, scaffolding was apparent in the actions of both ManagementAcademic and AcademicSupport acting as facilitators of the task. Students were allowed to act on their own but had 'expert' support as required, both through formal means (workshops, documentation, etc.) or less formal personal support.
Reflection	Reflection was only considered as 'refection on action' as part of the individual assessment process that followed the activity.
Other themes	
Process	The overall process of the activity, combining the situated nature of the activity, collaboration and active participation were seen as central to the task.
Assessment	There were some tensions between the students' agency and the academic requirements. There were issues around the individualized and quantitative requirements of HE assessment and the concepts of group authorship and validity that were dealt with by adding an individual element to the activity.

The three most prominent of the sociocultural themes present in the pedagogy as specified were **collaboration**, **active participation** and **situated learning**.

When asked about her motivations for introducing video production as an assessment method, ManagementAcademic's first response was 'the most obvious is to have the students working together'. The importance of group work was emphasized to the students in the Module Handbook ('it is paramount that all students in the team contribute'). While no rationale nor guidance was given to students around group work, ManagementAcademic presented it in terms that involve both cooperation and

collaboration, saying that it is about 'division of labour in a way… at the end they all grasp what each one has done in a way' but also that it should 'emerge out of the task'. This characteristic of emerging from the process comes from the embedding of collaboration and active participation in the wider pedagogy of the programme as a means of helping to understand classroom-based sessions ('you are encouraged to engage in discussions with entrepreneurs and management on a range of business and society related topics discussed in lectures'). This introduced the concepts of active participation and agency on the part of students as a way of situating their classroom learning in authentic settings. Students were told that they would conduct a 'case study analysis and fieldwork at a local social enterprise […] as well as interaction with a variety of organisations to discuss with strategic decision-makers' objectives, processes and impacts'. The active and situated nature of the project was further emphasized by the purpose of the activity being stated in the handbook as 'to move from the discussion of business theory and socio-economic development issues in the lectures, to the active observation of the context and the impact of business activities'.

These themes of active participation and situated learning were intertwined in the design of the activity. ManagementAcademic saw a value in an active pedagogy situated in an authentic content as 'a different way of learning…. it's very pragmatic and very practical' going on to suggest that though students 'might forget concepts and theories and textbooks, they won't forget what the course is but also … the type of activities and policies and what they have observed'. This idea of the situated nature of the task distinguishing it from traditional academic work and being an effective way to learn was expressed later as the students:

> *have to go in the field, there's no other way to get these images, they have to be there, and that pushes them, you know, it stretches them, they get out of the routine of reading and writing essays, reading and writing essays, and they have to do that at unusual times when the organisation has the activity they need to be in. So it's quite challenging, they have to work together.*

The immersive and collaborative nature of the task was central to ManagementAcademic's view of pedagogy where 'the entire point is, I think for a course, a good course, is to give them perspectives and concepts that they can use to interpret

their own reality'. Although not expressed in sociocultural terminology, this quote again shows the importance of situated learning in the specified pedagogy. However, the intrinsic value of active participation**,** as seen from a sociocultural perspective**,** was not the only motivation for making it central to the pedagogy of the activity. The ability to offer students an opportunity to engage in practical research was another driver – 'the idea was to have the students actually engage with doing research because that doesn't really happen in any other course and that is also useful for them to understand what they have to do for the dissertation'. So the situated nature of the activity and the active participation had worth as part of the learning process for the module content, but also embodied the practical skills that were being developed.

Other important themes present in the pedagogy as specified, but that were given less prominence in the interviews and module artefacts were **agency**, **creativity, reification** and **signs**.

The implication of a participative pedagogy is that students have some agency in the process. In the seminar where she discussed the project prior to the students beginning work on it, ManagementAcademic was clear with the students that they had control over the topic covered, the content and the creative approach taken during the project. She suggested some parameters around the subject area (one of which was adopted by the students as their topic) but framed these in a context of student choice:

> *Last year they decided to focus on studying social capital, but you can develop that in different ways or take something else….. Just brainstorm between the six of you and, basically, I am happy with what you decide as long as you can actually study your topic and the concepts from this module.*

The link between student agency and creativity was emphasized by, outside of giving some context around the structure of a research report, ManagementAcademic being deliberately vague around the expected format of the video essay: 'the reason I am not showing you the digiessay from last year is I don't want to influence you…. I think it is better if you first design what you want to do'.

Student agency around choice of topic was acknowledged by ManagementAcademic in interview – 'I didn't specify those elements too much so they had that flexibility of choosing what they wanted to, what their research would have been about'.

ManagementAcademic felt that this allowed students to ‘create your way, your own path. It’s good for them. They had a lot of flexibility’ and could express themselves using ‘a conventional structure, but in a very creative way’. ManagementAcademic linked student agency to a skills-based outcome (self-management) rather than expressing it as an intrinsic part of learning.

While not using the term ‘reification’, one of the main stated aims of the project was ‘the use of images in expressing the concepts and expressing the links between different concepts’ and expressly ‘the use of images to enrich the narrative that the students normally would put in a written essay’. ManagementAcademic felt that images can express ideas that ‘just by using words sometimes [do] not emerge’ and that in the specific subject of community impact of local development ‘it is always difficult to measure impacts in the community, to measure things like the use of space, you know, with standard tools so, and in the amount of time they have, so they go out and they use the visual tool to do that’. Linked to the idea of expression through images, the assignment was an opportunity ‘for the students to engage in something a bit more creative on their own terms’ and offered them ‘a different feedback … on their work. It’s something they can see visually rather than just reading’.

Some of the themes presented in Table 4.1, such as **scaffolding**, **tool use**, **reflection** and **imagination**, were evident in practice but were not emphasized by ManagementAcademic in interview or in the module artefacts

While offering space for students to act, ManagementAcademic saw her role as scaffolding students in their learning, setting the parameters for the activity and acting as a supporter enabling students to act agentively: ‘it is just facilitating and they organize everything else on their own and the tutor helps as well, of course. So in a way it is very important that they know they can have support but because it is a research project they need to have some space to self-manage and self-organize themselves’.

AcademicSupport, who worked with Groups 1, 2 and 3, also scaffolded students through the technical elements of their work, including running an initial training session covering video capture, video and audio editing, image searching and copyright and attribution. These sessions were supported by additional drop-in support and bespoke web-based resources.

The use of tools to create meaning and the development of technical skills were emphasized differently by ManagementAcademic and AcademicSupport. This area was dealt with only briefly in the course documents with the assumption that students would create their video having 'acquired some prior knowledge of the software'. ManagementAcademic acknowledged that there were practical skills learned during the students' project ('they can use, learn to use this software. It's an additional skill they can use') but it was almost mentioned in passing. The way in which it was discussed did not show a belief in the centrality of the use of tools to mediate and create meaning. There is also some ambiguity in how this was dealt with in the module – a practical workshop was delivered by AcademicSupport but ManagementAcademic also suggested that trial and error was an acceptable method of learning here as 'these are exactly the things that you learn by doing'.

Working closely with the students as they worked on the development of the video projects, AcademicSupport was able to identify where the technology impeded learning. As will be seen in Chapter 5, relativity small technical problems caused disproportionate disruption for all of the groups using these tools and, for AcademicSupport, showed that the students, despite being a part of a generation that is often assumed to be comfortable with technology use, did not have broadly transferable digital skills or specific skills in video content production. This meant the problems with tool use became a barrier to active participation for some and to creativity and agency for others.

The themes generated from the literature review around the importance of **process** and the tensions surrounding **assessment** were apparent in this activity (and it was in the assessment, rather than in the activity that reflection was referenced). ManagementAcademic used language similar to that identified in the literature review to emphasize the importance of the practical task to learning – 'what I think is different, very different, is the *process*' [emphasis added] where 'the design of the visual essay is such that they have different tasks that require different skills'.

This focus on the process of video creation rather than the outcome is also shown by ManagementAcademic's views on the quality of the final product, where she places emphasis on content and the research process rather than production and expert tool use: 'it's not about assessing the quality of the image'. This was echoed by AcademicSupport, who felt that there was a 'good enough' standard that was acceptable

for students to achieve and contrasted it with working on an earlier project where a professional video production company had worked with students: “a technical guy … came up and he had like good equipment and so they set up, like, a room with his equipment for doing the voiceover and stuff and he, he really helped them quite a lot – it’s not necessary”.

ManagementAcademic emphasis on the importance of process was not reflected in the assessment criteria or practice for the module, however. Content was given prominence in the criteria used to assess the activity – ‘it’s not about assessing the quality of the image, although the quality helps, but it’s about assessing the consistency and the opportunity of using that image to explain a particular research concern’. While suggesting that the task was somewhat out of the academic norm, the outcome of the project was judged to have been successful from an academic perspective: ‘I could see it all was there because in the lectures we had extensively talked about meaning of developments, the meaning of social inclusion, of how do you actually act, what policies we put in place to sort of overcome that’.

As mentioned above, ManagementAcademic suggested the use of ‘a conventional structure’ to students when creating the video and directed the students towards what to address from the module content:

> *The visual report basically had to follow a similar structure of, say, a research-based essay, so they would need to have a short, within the 4-5 minutes that they have, an introduction, specify the concepts, present the data and draw conclusions…. So they were very much aware of the structure from that point of view. That is quite conventional in a way.*
>
> *They had indications from me in terms of what particular, let’s say, not just in terms of the structure, but also in terms of the contents of the module what would have been desirable to actually focus upon.*

So, while process, agency and creativity were important to the project contributing towards student learning, the assessment criteria acted as a constraint on each of these.

An acknowledgement of the issues identified in the Chapter 2 around the strategic way in which students can approach assessment was present in ManagementAcademic’s decision not to include an element of peer assessment in the activity. This was to avoid,

as much as possible, the graded nature of the task from interfering with its execution – 'I am not asking them, as other courses, to actually assess each other. I really want cooperation[8] to emerge out of the task, not because I am monitoring them'.

In addition to the 25% of the students' final module grade allocated to the group video assignment, an additional 25% was awarded for the individual student's responses to the activity. Here the students were informed that it gave them 'a chance to explain in detail the type of background, concepts and line of argument that have shaped the visual essay, as well as to discuss results and provide some recommendations to the organisation'. This essay did not require additional research work but was 'more like a reflective note on the visual essay'. While this suggests that a notion of individual reflection was built into the assessment design, the reality was a little more practical: 'The reason for the individual essay is that the students are not homogenous… so we need to understand, let's say formally, the different abilities of the students because otherwise the group work flattens everything around a mark and I just wanted to be able to, in terms of fairness, it is important to have that'. The individual essay allowed ManagementAcademic to 'actually understand the differences between the students'.

4.3 Group 2 and 3 – Sport Studies

As mentioned in Chapter 3, the activities studied for Groups 2 and 3 were designed, overseen and assessed by the same academic participant (SportAcademic). The pedagogy as specified for each was alike and, in some places, content was replicated. The interviews conducted with SportAcademic covered both groups and so they are considered together in this analysis.

The context for both groups is described in Section 3.5.3. Part of the assessment for each module was a group activity where students were required to produce a video presentation, containing images and audio, either discussing a concept from the sociology of sport (Group 2) or arguing for the inclusion of a specified non-traditional sport within the school physical education (PE) curriculum (Group 3). The assessments included an

[8] ManagementAcademic appeared to use the terms 'collaboration' and 'cooperation' synonymously – at no point in the interviews did she differentiate their meaning along the lines of Dillenbourg et al. (1996).

element of peer marking based on the students' perceptions of the contribution of their group colleagues.

As was seen for Group 1, for Groups 2 and 3 there was no explicit or implied intention from SportAcademic to take a sociocultural approach to learning. Although SportAcademic intended to emphasize creativity and imagination, the module artefacts suggest a teacher-led approach where the students had relatively little agency and were encouraged to cooperate rather than collaborate. However, there was a great deal of scaffolding and supported use of tools. Table 4.3 presents a summary of the identified themes from the specified pedagogy for Groups 2 and 3.

Table 4.3 - Themes from pedagogy as specified for Groups 2 and 3

Theme	Comment
Most prominent themes	
Collaboration	Group work was considered as important for the task but the focus was on developing group working skills and on the efficient division of labour (or cooperation). Peer working was characterized as problematic and in need of remediation through marking criteria.
Reification	There was an emphasis on the creation of meaning through the use of images.
Tools	The focus on tool use was on skills development rather than on using them to create meaning. There was a recognition that the tools used applied limitations to the activity (and that some of this is deliberate).
Secondary themes	
Active participation	Participation was characterized as getting the work completed and contributing to the group rather than as central to the learning process.
Scaffolding	Both the video content and tool use were heavily scaffolded for this activity – this led to a decrease in student agency, creativity and a strategic approach to assessment being facilitated.
Agency	Student agency was decreased by the completeness of the instructions and the suggested structure for the video.
Creativity	Creativity was rewarded in the assessment and was an expectation of SportAcademic, but this was not fully communicated to students. The detailed guidance given on structure

	limited creativity.
Imagination	Imagination was implicit in the expectations around creativity of SportAcademic, but was not given prominence with the students.
Less prominent themes	
Situated learning	This was touched on in an opportunistic way but was not central to the specified pedagogy.
Themes not present	
Signs	This was implicit in reification, but it was not made clear. For Group 1 it was clear that certain sign (such as maps) expressed module content in explicit ways – that was not the case here.
Reflection	Reflection did not appear in the pedagogy as specified.
Other themes	
Process	The development process was not highlighted as being important to learning and was not considered in the assessment criteria.
Assessment	The focus of the assessment was on the output rather than the process. Academic content and structure were rewarded, with less focus on creativity. Contribution to the work of the group was also rewarded.

While the pedagogical approach taken with Groups 2 and 3 was not acknowledged or addressed directly in the module documentation or lecture material, there is no evidence that SportAcademic was consciously following a pedagogic model that might represent a sociocultural approach. As will be seen, some of the themes identified in Table 4.1 were present, but it was clear that the epistemological views of SportAcademic do not align with those presented as representing a sociocultural theory in Section **Error! Reference source not found.**. The specified pedagogy leant towards a teacher-focused approach and the detail given around task performance and the assessment criteria did not emphasize student agency or creativity.

In the lecture that introduced the activity for Group 3 three themes are apparent as part of the rationale for the activity: **collaboration** (although, as will be shown, definitions and practice here are problematic)**, reification**, and **tool use**. In the lecture a division was made between the academic learning outcomes, which were covered by the video script ('the content of what you're writing in your digiessay will relate to this') and four 'transferable skills' that were outlined in the module learning outcomes:

What you might not have done before is done some research into the images that you are using or videos that you're using, other sources that you could be using… So when we're looking at research skills we're obviously looking at some research skills to do with literature still, but we're now also asking you to research some of the images that you are choosing.

You are working as team, which obviously relates to communication and teamwork, which is another general transferable skill.

…this is a different type of presentation skill. This is actually putting a package together which could be used as a presentation or sent to somebody in a different location to present your ideas. So, again, we are working on presentation skills here.

probably the most relevant thing for the digiessay, is to develop your skills and your experiences of using information technology…. You might be using some software and maybe some hardware as well that you've not used before, so it's opportunity to get involved with doing things like that.

These quotes frame reification, collaboration and tool use as skills to be developed in the student rather than an intrinsic part of the activity or the pedagogy being used, i.e., skill in collaboration is an outcome of the process rather than collaboration being the means by which learning takes place, and there is a conscious separation by SportAcademic of the academic content of the module from the skills that are being developed. The development of these skills was directly linked to improving employability: 'if you reflect on the things that you learn through doing this, some of the things that you learn will be transferable to the world of work. And that's a nice story to be able to tell at an interview or on a job application'.

Group 3 students were told in the lecture that 'one of the reasons why we have asked you to work as a group is to make sure that you can cover all of these things in the time and also cover the contents that we're wanting you to… and the time that you've got'. In addition, in interview SportAcademic felt that students worked collaboratively in that they did 'assign each other tasks, because they kind of comment on "oh, this person was

responsible for this and they did that well or they helped with this aspect of it"…. So, yeah they do tend to split it up'. In both of these examples the emphasis on group work was based around two main practical concerns: dividing up the tasks to allow completion within the time allowed and a desire to promote group working skills (described in the handbooks for both modules as skills around 'communication' and 'team work'). Neither of these include the characteristics of collaboration (interactivity, synchronicity and negotiability) identified in Chapter 2.

Elsewhere in the pedagogy as specified, group work is conceptualized as potentially problematic and in need of remediation. The criteria given for the peer marking process that followed completion of the video were concerned with students' practical contribution to the group (attendance, organization, etc.) and the students were told that it was their opportunity to reward or penalize colleagues based in their perceived contributions – 'if you are in a group where you feel like you've done a lot of work then you can choose to mark some of your group members down if you think that they've not been pulling their weight. Equally, you can choose to give everybody in your group 100%, it's totally up to you'. This conceptualization of collaboration focuses on getting the work done.

While the project briefing mentioned images and presentation, much of the subsequent discussion moved on to focus on copyright, searching and licensing. Only at the end were students given the information that 'we're also going to a mark you in terms of your use of images and whether they are appropriate for what you were talking about within the script'. While it was not emphasized to the students, in interview SportAcademic was clear that the role of images as evidence and in creating meaning (or reification) was part of the rationale behind the assignment. The students were expected to use images to express meaning: 'so this was more of a chance for them to say "well, right, we've looked at images as evidence, now what we are going to do is we are going to use images in a more applied way and look at it from the producer's kind of point of view"…. it was also to make then think about "well when you are looking at something, when you are searching for evidence it is about the interpretation"'.

When considering the use of tools, in this case the technologies that enable the students to complete the task, SportAcademic saw the development of technology skills as an end in itself. There was a strong emphasis on increasing students' employability – this was

stated as one of the learning outcomes in the course documentation and confirmed in interview: ‘It’s not just about writing an essay it’s actually about working with technology and, even though you might not be using the same software in future, employers are looking for people who can use technology and solve problems’. The focus here is on the skills and employability that are fostered by the task.

It was acknowledged by SportAcademic that the tools used for the task led to some limitations. Part of the reason that moving-image video was optional in the students’ final submission was reliable access to appropriate hardware: ‘if we had access to cameras and stuff like that then I might say you have to use video’. This issue was made clear to the students when they were offered the option: ‘you're gonna have to use hardware that you own yourself. You can if you want, use your mobile phones if they have the opportunity to, or the capacity to take video. That’s totally fine’. Software and skills limitations were also acknowledged. The choice of software for video and audio editing was made for practical purposes of availability and cost (both recommended packages were free). As will be seen in Chapter 5, the restrictions of hardware, software and skills created limitations on the students’ creativity and agency during the activity.

As with Group 1 there were a number of themes that were implicit in the activity rather than emphasized as part of the pedagogy as specified. In this case these were the concepts of **active participation** and **scaffolding**. How these were approached also gave insights into the perceived roles of **agency**, **creativity** and **imagination**.

As discussed above, active participation was framed as contributing to the completion of the work – a sociocultural approach would connect it with collaboration and situated learning, but this was not the case. Scaffolding was apparent in the support offered by SportAcademic and AcademicSupport who both facilitated sessions where skills could be practised, and who provided support documentation around the practical aspects of video production and detailed instruction about the task. The level of detail given in the assignment documentation for Group 3 about the topics that should be addressed in the assignment (four topics with a 2-4 sentence description of each) gave the students a ready-made structure for the video. The assignment marking scheme was very explicit that the majority of marks were awarded for the academic content of the video (based on the script) and this was emphasized in the lecture. SportAcademic stated in interview that

‘I really stressed the order in which I thought they should do things in, so they needed to sort the script out first of all so the academic quality was higher’.

As mentioned in Chapter 3, Groups 2 and 3 were participants in modules that had large student cohorts (around 300 and 75 respectively). As such, AcademicSupport set up a number of ‘drop in’ technical help sessions during the production phase of the projects, but only a small number of students attended these. AcademicSupport contrasted this with the engagement that she had with Group 1 and felt that it might reflect the different context of the two cohorts, with Group 1 being ‘post grad students, which I think they are a little bit more engaged with the subject’. (ManagementAcademic had also identified that the students in Group 1 were ‘very motivated’ and ‘not representative of other students in the … school’).

More so than for Group 1, for Groups 2 and 3 some of the themes identified in Table 4.1 were either present but not given prominence in the pedagogy as specified (**situated learning**) or did not feature (**signs** and **reflection**).

During their lectures concerning the video production activities both groups were told that they had some freedom to choose the media included within the video if it helped them to meet the assignment criteria: ‘you don't have to use video but you can do if you think that it's appropriate’. The video production process undertaken by Group 3 was entirely desk based – images and video clips were searched for, sources were consulted and material was put together in a university study room or at home. Group 2 were told about a relevant conference taking place locally and were invited ‘to sign up to that conference and maybe try and meet some of the speakers at the conference and get an interview with them for your digiessay’. While this presented an opportunity for the activity to be situated and actively participative, it was not emphasized to students, being mentioned as the final sentence of the lecture.

Unlike Group 1, the pedagogy as specified did not emphasize the **process** of video production activity as being important and this was apparent in the **assessment** criteria. where the focus in the assessment grading for the activity was on the output.

For Group 3, 20% of the assignment marks were awarded for following the predetermined structure and a further 60% were awarded for academic content, showing engagement with the course content, criticality and the use of evidence. As seen above, though, much of this content was signposted by the lecturer in the assignment guidelines,

almost giving a formula to the students to create a video that would follow the suggested structure and therefore attain a high mark. Group 3 students were given very clear criteria for producing their videos:

> *I just want to suggest to you that most of what we're gonna assess you on is actually the content what, what we listen to, so your script is extremely important. You need to make sure that you structure it in a logical way. You're gonna get 20% of the mark for structure.*
>
> *Knowledge and understanding is one of the most important parts on here. You need to make sure that you're covering the correct answers.*
>
> *You need to do a little bit of critical analysis in here. So critical analysis of some of the evidence, but also critical analysis of the sport, and whether it has limitations or not.*
>
> *In terms of use of evidence, this is where you might use the literature to inform your script.*

In addition to the 80% of marks that were available for structure and content, a further 10% of marks are awarded for 'presentation', which was described as 'your use of images and whether they are appropriate for what you were talking about within the script and any videos that you do use…. Also if you choose to put music over some of this then we will mark you on your choice of music, not in terms of your taste in music, but whether it is paced appropriately for what you were talking about'. The marks here went beyond the academic content and focused on creativity, with SportAcademic highlighting in interview one group who had 'used the video of parkour and just the timing of it for some reason flowed with the timing with their script. Not necessarily about what they were saying in the image but just that the movement and the rhythm of it and it was, it just really was well-balanced'. The focus on creativity and agency here was not wholly apparent in the documentation or marking scheme (beyond the 10% that is presented) but the enthusiasm expressed by SportAcademic for the more creative effort also shows that there was an expectation of engagement beyond the expressed remit.

4.4 Group 4 – Computing and IT

The context for Group 4 is given in Section 3.5.2. As with Groups 1, 2 and 3, the academics who created the material for this module did not link the module design to a particular pedagogical theory, but, unlike the previous activities, this design consciously included most of the themes identified in Table 4.1 as characteristic of a sociocultural approach. Table 4.4 presents a summary of the themes from the pedagogy as specified for Group 4.

Table 4.4 - Themes from pedagogy as specified for Group 4

Theme	Comment
Most prominent themes	
Tools	Given the subject matter there was a focus on skills development as central to the learning outcomes. Hardware, software and available resources applied limitations to the activity.
Creativity	Creativity was central to the activity and to the process of learning. It was, however assessed via proxies, and not fully, in the final product.
Collaboration	Although the video development was an individual activity, collaboration was used as part of the peer review focus. It was used partly to simulate a situated authentic setting and supports reflective practice.
Agency	The students were scaffolded through the development process but were encouraged to go beyond the model presented. Agency was explicitly linked to creativity and learning.
Active participation	Participation was facilitated via the peer review activity and was seen as central to the activity and to learning.
Reflection	Reflection was encouraged in the module material during the creation process (reflection in action) and afterwards through review and collaboration (reflection on action).
Situated learning	The collaborative activity was presented in a context that simulated a situated authentic environment. There was an emphasis on the students' developing identity through activity.
Scaffolding	Scaffolding was explicit in the module material – the educator led student through the process, embedding skills

	development but promoting agency in student development beyond the module material.
Signs	The module material introduced the structures and 'language' of video used to signal meaning.
Reification	There was an emphasis on making meaning in a medium other than the written word.
Less prominent themes	
Imagination	Imagination was not referenced directly but was implicit in creativity and reification.
Other themes	
Process	The development process was seen as central to learning, linking together creativity, participation and reflection.
Assessment	The activity in the module was aligned directly with assessment (completing the activities produces the assessed work). Assessment of the final product focused on the technical aspects and so did not fully reflect the specified or enacted curriculum. Some effort was made to assess process and creativity by using evidence from other sources.

As might be expected for a computing and IT course (as opposed to the subject areas for the previous groups) there was a focus on **tool** use in this activity. Eleven of the twelve stated learning outcomes for the activity were technical in nature: for example, 'Choose appropriate forms of compression, depending on the required degree of fidelity to the original' and 'Use software on your PC to process and remix sounds'. The one exception was concerned with the content and structure of the video: 'Select and present information from different sources in a suitable form appropriate for a particular audience'. While this is a solitary, and broadly expressed, learning outcome, in reality, as will be seen below, **creativity** and creative processes featured heavily in the module material, with students being told 'this part includes a considerable measure of practical work, but I won't focus exclusively on technologies and techniques'.

While the video production activity was an individual task, the assessment design included an element of peer review. This 'social' element of the task was emphasized. Students were told that they would 'prepare a presentation of your own to share and discuss with fellow students in a small group'. The implications for the timing of the students' work were mentioned ('owing to the social nature of the material in Block 4, it

is especially important that you study this block in the scheduled weeks') but it was also noted that the activity reflected the production, sharing and commenting on media outside of the course – 'presenting and sharing ideas through multimedia has seen an explosion of interest in the past few years with websites such as You Tube supporting not only sharing of videos but also, notably, interaction and discussion amongst users'. The pedagogy here emphasized the individual nature of study but stressed the importance of **collaboration**, **active participation** and **reflection** while framing the activity as **situated learning** authentic to the context that the students may be entering.

While, as we will see below, collaboration was considered to be an important part of the pedagogy of the activity, there were also more practical reasons for its inclusion, that refer back to the 'skills' narrative presented in Groups 1, 2 and 3, this time around the requirements of accrediting bodies, with group work being characterized as 'part of what you really need to do to get a module accepted, not just internally but by people like the BCS [British Computer Society] and so forth' (CompAcademic1). As with the other groups, employability was another reason for the inclusion of group work – 'we have to do things that will have that sort of employer focus in that it's a sort of an employability skill, a group working ability, and… so, we knew that we had to put that in at various places' (CompAcademic1). The focus on skills and employability was reflected in the marking criteria, with tutors being told that: 'in your feedback make it clear that giving timely and appropriate feedback to others on their work is an essential skill for most workplaces where colleagues work on projects'.

As for the earlier groups, there was some characterization of group work as problematic, with CompAcademic1 stating that 'a lot of our students hate group working' and using negative language around how it was enacted in the module – 'we … force them to look at what someone else was doing and to comment on it and force them to have comments on their material'. For Group 4, therefore, collaboration is used in a number of ways – to encourage reflection, to allow development through peer discussion and as a 'skill' to be demonstrated for employers.

The author of the course material (CompAcademic2) was 'present' within the text – she wrote in the first person and used **scaffolding** to guide the students through the activities and course material using an example of her own work and modelling good practice: 'Session 4 shows you how I put together my own video. I don't expect you to reproduce

my work, but I'll show you the main ideas, processes and techniques I used, as you may decide to use some of these yourself'. This showed a student-focused approach giving students a measure of **agency** in how they performed the task: 'I'll be taking you through the steps I've followed to create my response, which takes the shape of a short film. This should help you to create a piece of your own to discuss with others and submit as part of your [assessment]'. It was emphasized that this was a starting point for students and that they should move beyond the teacher's work, acknowledging their potential and emphasizing their agency: 'I wanted to show you some techniques that can help to make things more interesting and lively – techniques you might build upon in the future'.

The process by which the students could move from following the teacher's example and creating their own work was **reflection** – this was specifically encouraged as the students worked through the material: 'at this time you may want to take a look at my response and jot down any notes and thoughts that come to mind'. Both reflection in action and reflection on action were characterized as being part of the creative process. For the former, students were given instructions on using the supported audio and video editing tools but there was an expectation that students move beyond functional skills to innovation: 'you should not only be familiarising yourself with the tools, but also actually be doing some measure of experimentation that will be useful later'. Reflection on action was part of the iterative process of creation where 'creative work is never really linear…. There is always refinement, iteration back to a previous step and, perhaps, a total change of heart along the way' – this view was embedded in the activities where CompAcademic2 told students that she would be 'asking you to reflect on and revisit your own ideas, as these should form the basis of your own video presentation'. The relationship between creativity and agency was reinforced with students being told that the 'theme or concept of your work can be anything, really, and the path leading to your completed piece is likely to be a winding one'. In interview, CompAcademic2 expressed a hope and expectation that students would move beyond the module material and be creative, being 'very interested to see if the students would go out and produce their own images apart from using the image bank or produce their own sounds' and 'very curious to see what they were going to do. In a way, I would hope that something that came out, that came across as something quite personal' (CompAcademic2).

Some constraints on students' agency and creativity were presented by the practical requirements of completing the activity on time. CompAcademic2 acknowledged that as a

creative exercise ‘experimentation and play are really essential to this type of work’ but that she introduced a number of elements such as quick guides to techniques in the production software and restricted media libraries as students ‘need to be focused so that you can eventually complete your own video in time for the [assignment] submission’. Students were told that they were ‘free to use any materials you like… including your own images and recordings, but you should not spend too much time searching for or producing materials’.

As part of the creative process, the **signs** and structures of audio-visual material were introduced, putting the activity into some context. Structures of adverts, films, television programmes and formats, and the use of audio were all discussed as well as creative approaches to production and how these related to web-based multimedia were considered, placing the work that the students are completing into a situated context (‘the footage is sometimes slowed down, sometimes sped up; together with the intense music, I feel this really 'packs a punch' in terms of themes, opinions and emotional content’).

The decision to use video creation for assessment was designed partly as a reaction against a conception of the ‘traditional’ delivery model of material and assessment in HE teaching, even at a distance. Part of this was a focus on meaning making, or **reification**, in ways that might be unfamiliar to the students: ‘because of our background and because of the way we deliver stuff and so on, we are very heavily focused on the word … and particularly for assignments we make students write’ (CompAcademic1). In the design of this activity there was a desire to assess student in a way that allowed them to ‘have a different way of engaging with the material and showing that they’ve done that’ (CompAcademic1).

Part of the motivation was for the novelty value – ‘[students] might have got into a habit of “well, I need to do some calculation, I need to do some writing, I need to do some programming, there’s a bit of information literacy here as well” and I really did want this to sort of come in and feel like a complete breath of fresh air, an utter change of direction and of pace’ (CompAcademic1).

This desire to create a moment for students to ‘stop and think’ and to change direction revealed a view of pedagogy that involves the possibility of transformation in the student. Discussing student feedback on the activity, CompAcademic1 described a student

reacting to the activity by saying ‘I realize actually that there is a whole new area out there that I never thought about and I’m really enjoying it and I’m now starting to look at other modules I can do that will move me in this sort of direction’. CompAcademic1 went on to say:

> *and that’s good as well. I mean it’s frightening also, when you see a student suddenly decide to change their plans as a result of what they’ve learned, but it’s good when it happens. You feel that for that one person this has been really, really well worthwhile because it has stretched them, it has put them somewhere else where they weren’t necessarily comfortable at first but they’ve settled in and they’ve enjoyed it and they want to do more of it. And, you know, for me, that’s what we should be doing to our students.*

Some restrictions were placed on the task by the use of tools. For practical purposes specific instructions were given in the recommended software, but this was placed in a context of wider tool use (‘these techniques are so essential that they are features provided by pretty much any sound-editing tool’) and students were given freedom to use other tools if preferred. While there was a focus on the practicalities of teaching and using media production tools, with those used being selected for availability and ease of use, and the restriction of available media to ‘focus them actually on the task of producing the video rather than letting them get distracted’ (CompAcademic1) there was an acknowledgement that a balance was required between the practical focus and creativity: ‘You put all of the two sides of the coin of teaching and learning in a creative way together. So, yes, you do need to download the software but after you download the software you do a little bit of exploration, one thing, and to recreate something – the idea was to bring these two sides together and that’s why eventually it was structured with activities’ (CompAcademic2).

As mentioned above, the peer review activity was presented in the context of video sharing and commenting on the web. It was signposted as being an authentic, situated activity – ‘you'll have gathered that an essential aspect of the Web is that it has, indeed, become a vast platform for sharing’.

In all of the above, it can be seen that CompAcademic2 placed an emphasis on the **process** of video production (the active participation, creativity, agency and reflection

built into the task) as the means through which learning took place. The learning and knowledge creation of the students was directly linked to their activity and was not seen as separate from them.

The limitations identified in the activity (around technology, source material and time) were justified as the focus was on the development of broader knowledge and the process of creativity – 'it is possible to do interesting and creative work without necessarily having access to expensive gear or vast amounts of experience' – and reflect the limits placed on any creative task. An interesting element of the introduction of the supported tools was that the activities where students installed and familiarized themselves with the software embedded information about copyright, the terms and conditions of internet services and software licensing, further illustrating a pedagogy where students learn through active participation and scaffolding.

Part of the scaffolding around the task was the embedding of the **assessment** activity within the teaching material. Students were told what they were going to learn and how the activities that they would undertake related to the assessment, for example: 'Session 3 focuses on planning a video presentation. Whilst you'll be thinking of and developing ideas for your own work, you'll also be learning about features of the software tools as well as techniques you may like to adopt to create your own piece'.

A focus on an active pedagogy was behind the decision to embed the assessment activity into the course content – 'the preparation of the video is actually accounted for in the study time for the teaching material rather than something that they then have to do once they have studied the material' (CompAcademic1). The creative nature of the task meant that the method of teaching could not be 'training' but should be more explorative and experiential:

> *I said, "look instead of putting together…, OK we have the learning outcomes and we have all of that, but instead of structuring the material round the topics – 'oh, you must know what is something rate' – instead of doing that, structure it within a list of activities" and that's where the idea of a narrative and the learning journey came in.*
> (CompAcademic2)

Despite this embedding of the assessment activity, the tensions between the process of video creation and the constraints of assessment were apparent. The marking guide for

tutors began by stating that ‘No marks are awarded for the artistic merit of the presentation’, but markers were encouraged to feedback on particularly good submissions or where improvements that were identified in the peer review activity had not been enacted. Marks were instead awarded for technical elements: ‘Were appropriate image, text and audio formats chosen? Are the images and audio clear?’ and for participation ‘in a timely and enthusiastic fashion’ and compliance with the code of conduct for the communication systems used.

While this aligned the assessment with the stated learning outcomes of the activity, which were largely focused on technical skills, it did mean that the emphasis on creativity and process in the module material is not acknowledged in a tangible way for students (with the marking guide asking the marker only to consider whether the ‘presentation is appropriate for the intended audience’).

The academics stressed in interview that creativity was central to their design of the content and activities: ‘one of the discussions that we had right at the planning stage of [the module] was what were we going to do with the sort of the creative aspects of it’ (CompAcademic1). This focus was illustrated by the fact that CompAcademic2 was invited to design the activity as she had ‘a very strong musical and creative arts background and I thought that was potentially a really interesting slant’ (CompAcademic1). Despite its narrowly stated aims of the activity, it was actually intended to broaden out the largely technical nature of the module content. Almost against the specified aims there was a desire to ‘move [the module] in a direction that I hoped would surprise the people who wanted it to be mainly techy … it made them sort of stop and think differently about what they were doing’ (CompAcademic1).

While, as identified above, the technical content of the module was important, there was a decision to use an active approach in a situated context to deliver it: ‘we said “ok, why don’t we take out all this content, ‘format is this, something rate is that’”, and we structured the thing differently and it is on the activities that you actually need to conduct to create a video‘ (CompAcademic2). Rather than focus on a defined set of content knowledge and skills there was desire to move towards a more agentive and student-focused model of pedagogy: ‘we are kind of moving from this content focus to something broader. It is very hard for a single person to hold a lot of knowledge on anything so the idea that it is important to have skills to create your own learning trajectories was really,

you know, I thought it was really good' (CompAcadenic2). This focus on creativity and agency was not, however, represented in the assessed outcomes.

Rather than being an omission, this was a deliberate decision made by the course team based on their view of the nature of creativity: 'there was a discussion "oh, we must assign points to this and the other" and my reasoning was that assessing creativity is a huge, huge question mark' (CompAcademic2). This reflected a tension between the technical nature of the learning outcomes and the nature of the activity: 'some colleagues who perhaps don't have any experience in other areas, the humanities or social science, whatever, the more technical people, they are, they were very adamant that we need to assess this for creativity but eventually the side of reason won the argument because it would be quite artificial and in a way unfair on the students because we were not teaching them rules, specific rules of how to put something together' (CompAcademic2). So in this module creativity was used as a way of teaching technical skills and content, was introduced as an end in itself and was only minimally graded.

In the assessment, marks were awarded for the submission of a completed storyboard and for a written commentary reflecting on the process of creating the presentation. The reflective nature of this task was acknowledged as students were advised to 'in the light of the materials you chose … as well as the constraints and requirements of the format of your choice, revise your storyboard to produce a detailed plan of your video'. The inclusion of the storyboard as part of the assessment represented an attempt to foreground the process of video production rather than focus completely on the output.

As with the finished video, the marks awarded for the storyboard were largely for technical compliance – the marking guide instructed tutors to '[award] marks for a storyboard that matches the presentation's content. Reduce marks if the storyboard doesn't match the presentation or it doesn't include timings. Give consideration to the images and/or words used – do they relate to the question?' The marker was asked to compare how the storyboard structure related to the example given in the module material and to mark accordingly – 'the students' storyboards should have all the columns relevant to their own slideshow'. This focus on compliance with the format of the module material seems at odds with the reflective intent behind the storyboarding activity in the module material and so did not represent additional evidence of learning or reflection (and, as shown below, was not used effectively by the students).

For the written commentary, marks were awarded for students' discussion of 'the creative processes followed and how their ideas evolved' as well as more technical elements, such as choice of format and compression. As part of the activity students were asked to keep notes as they worked on the video so were expected to draw on these for this activity. It was in this activity that the creativity and reflection apparent in the module material were graded in the assessment (it is also another example of how the module activity fed directly into the assessment).

Part of the students' written submissions considered the peer review activity, where marks were awarded for 'feedback that would be helpful to the other students in identifying the strengths and weaknesses of their presentation in line with the framework supplied in the activity'. Students were also asked to respond to the feedback that they themselves received: 'at least one strength and one weakness must be identified from the feedback received' and to state whether they agreed with the feedback and identify 'at least one change' they would make if they were to revise the video (or give a good reason why they would make no changes). Again, this part of the assessment arose directly from the activities completed while working with the module material – the assessment here offered students an opportunity for reflection on action by asking them to consider both the work of others and the feedback they themselves received. It demonstrated a pedagogy of collaboration and an opportunity for scaffolding based on considering the work of others, which was the intention of the academics involved, with CompAcademic1 quipping that the commenting and review of other students' work was included 'to try and get them to reflect without using the 'R' word!'. Asking student to consider the concepts discussed in the module was 'a definite attempt to link back into the material and to make them think'. The results of this reflection were viewed as positive by the course team: 'looking at the forums in the first presentation I was quite amazed by the things that the students were saying and doing…. Everybody was very challenged, but challenged in a positive, productive way, something that was quite different from the rest of the course' (CompAcademic2).

The inclusion of the additional sources of evidence for assessment was acknowledged as a deliberate choice to overcome the difficulties of assessing only the output and to attempt to gain some insight into the learning involved in the process of video creation.

4.5 Summary of findings

While in the pedagogy as specified and enacted presented here the educators expressed strong views about the design of their video-creation activities none labelled these with a specific theoretical approach. This is as might be expected from the literature. Each activity did, however, to a greater or lesser degree, include elements that have been identified as supporting a sociocultural approach.

Group work was important to all of the educators. It was considered by all to be an important skill in itself, but for Groups 1 and 4 collaboration, alongside situated learning and active participation, were considered to be the primary ways in which learning took place. While there was evidence of cooperation in all of the descriptions of group work, this was most important in Groups 2 and 3 where the focus was on dividing and completing the task rather than learning through collaboration. These different conceptions of group work were often presented in the same language and it was only through analysis of how they were specified and enacted that they were apparent. Chapter 6 will discuss the implications for the design of video production activities of these different notions of group working.

Another common focus across the activities was creativity – this was considered to be important by all of the educators and each expressed the importance of creating meaning, or reification, through images. There was, however, a tension between the expressed importance of creativity and how it was rewarded in assessment – the consequences of this are addressed further in Chapter 5.

Differences in the amount of scaffolding given to students gave insights into how the academics viewed student agency. ManagementAcademic created a brief outline for students and gave them freedom, within the confines of assessment, to choose a topic and presentation style thus allowing students a great degree of agency. For Group 4, scaffolding was explicit, with CompAcademic2 modelling practice and then inviting students to create their responses. For Groups 2 and 3 SportAcademic gave detailed instructions around the structure of their video and so students had reduced agency in how they could approach the task.

Opportunities for reflection were present in each activity, but in all but Group 4 these were considered an opportunity to differentiate between students in assessment rather

than to facilitate learning. This need for differentiation highlighted issues with collaborative, creative assessment and the requirements of university systems.

Chapter 5 will move on to consider how the pedagogical approaches presented here were experienced in practice and how the video production activities facilitated student learning.

Chapter 5 Findings - Pedagogy as Experienced

Having, in Chapter 4, considered McCormack and Murphy's (2008) and Nind et al.'s (2016) conceptions of pedagogy as specified and pedagogy as enacted by analysing the implications of how module material was presented and delivered to students, this chapter will consider how the activities were experienced by students. It will consider how the themes identified in Table 4.1 were manifest in the activities performed by students, how the activities were perceived by students and how this contributes to the understanding of digital video creation as an assessment activity.

5.1 Group 1 – Management students

As shown in Table 4.2, the elements of a sociocultural pedagogy that were prominent in the specified and enacted pedagogy for this activity were collaboration, situated learning and active participation. Student agency, creativity and the use of image to create meaning were important, but tool use and reflection were not emphasized. In the pedagogy as experienced similar emphases on the situated and authentic nature of the task, active participation and collaboration were apparent. The latter, however, was also problematical – although collaboration (and not simply cooperation) was evident, the nature of the task meant that it required a time commitment from students that was not always possible, so was at times fragmented. In addition, language barriers caused problems with communication and, consequently, participation. The use of images to express meaning was very relevant for the topic being studied and led to a deep engagement with the module material. Students valued the opportunity for agency and creativity and recognized their value to learning, but tool use proved to be a barrier to this at times. Table 5.1 summarizes the themes for the pedagogy as experienced for this group.

Table 5.1 - Themes from pedagogy as experienced for Group 1

Theme	Comment
Most prominent themes	
Situated learning	The students considered the situated nature of the activity to be very important for engagement and for allowing them to

	apply theory to practice.
Active participation	The opportunity to participate in the work of the organisation and to engage with the staff as part of the project was engaging and motivating. The students were learning though making connections with module material.
Collaboration	The nature of the task encouraged genuine collaboration as it was difficult to divide the activities up into up into discrete parts - storyboarding, scripting, production and post-production were all done collaboratively. Activities around scripting and editing allowed for conversation around module material. The negative aspects of collaboration were around availability – the number of meetings required meant attendance by everyone was not always possible. In addition, communication issues within the group meant that there was a differential experience, particularly for one student.
Reification	Students engaged with expressing meaning through images and this allowed for greater engagement with the topic. The physical nature of the topic allowed for different forms of expression – maps, photographs, diagrams – as well as video and audio.
Agency	Students had agency in topic choice which allowed it to arise from their situated interactions. There were some restrictions on agency due to the assessment requirements.
Creativity	The students were motivated and enthusiastic about working creatively and it facilitated collaboration.
Tools	The use of technology was viewed negatively as it was seen as a barrier and created breakdowns in creativity and agency.
Secondary themes	
Imagination	This was linked to creativity, but not always apparent as there were often literal interpretations applied to image selection.
Signs	The students learned techniques of video production (framing, etc.) through participation and scaffolding.
Scaffolding	Scaffolding was used for development of topic (through discussion with ManagementAcademic) and with the technology (though discussion and engagement with a videographer and

	AcademicSupport). Some scaffolding of subject knowledge and technology also occurred through peer discussion and collaborative working.
Reflection	Reflection was a less prominent theme in the pedagogy as specified. It was, however, apparent in the student experience when they worked collaboratively on script writing and editing tasks.
Other themes	
Assessment	Unlike other groups, a strategic approach to assessment was not evident for this group.
Process	The importance of the situated, collaborative and participative nature of the process was acknowledged by the students and was evident in practice.

This activity required students to engage with a local social enterprise to consider how its work aligned with the theories and topics being considered in the module. Student felt that the opportunity to work and learn in a **situated** context was an important feature of the activity:

> *the idea of actually combining something like theory with a real-life project working with [the organization] in the first place was something you don't tend to do a lot when you study and I think that was very important, a very important part of the project.* (ManStudent1)

The language that the students used to describe this aspect of the project suggests that they found it to be motivating and engaging and that they were appreciative of the opportunity to **participate actively**:

> *it was the first time we had actually got the opportunity to kind of go and do something so closely and actually get the access, talk to the people, whereas usually you do get guest lecturers coming in to the university, which is already very interesting because they bring their own perspectives and ideas, but to actually go and see what they are doing, you don't get the chance to do that that often at university so it is very nice and interesting.* (ManStudent1)

The emphasis on participation and the situatedness of the activity was recognized as being important by the students:

> *That was a huge positive that was really different from any other project that we've done and for the research for the project we went to two of their events so that was, like, she was able to see us and know what we were doing and it was really interesting to actually make, create relationships with people in the community. (ManStudent2)*

ManStudent2 also felt that, in addition to creating an activity that was engaging, the setting for the work was also important to the learning: 'It was more interesting – I feel like I learned more just by, you know, meeting up with [the organization] and going to their events'. This coincides with the previously identified emphasis on **process** in video creation – arranging access to the organization and visiting and taking part in events were recognized as important contributors to the development of the video output.

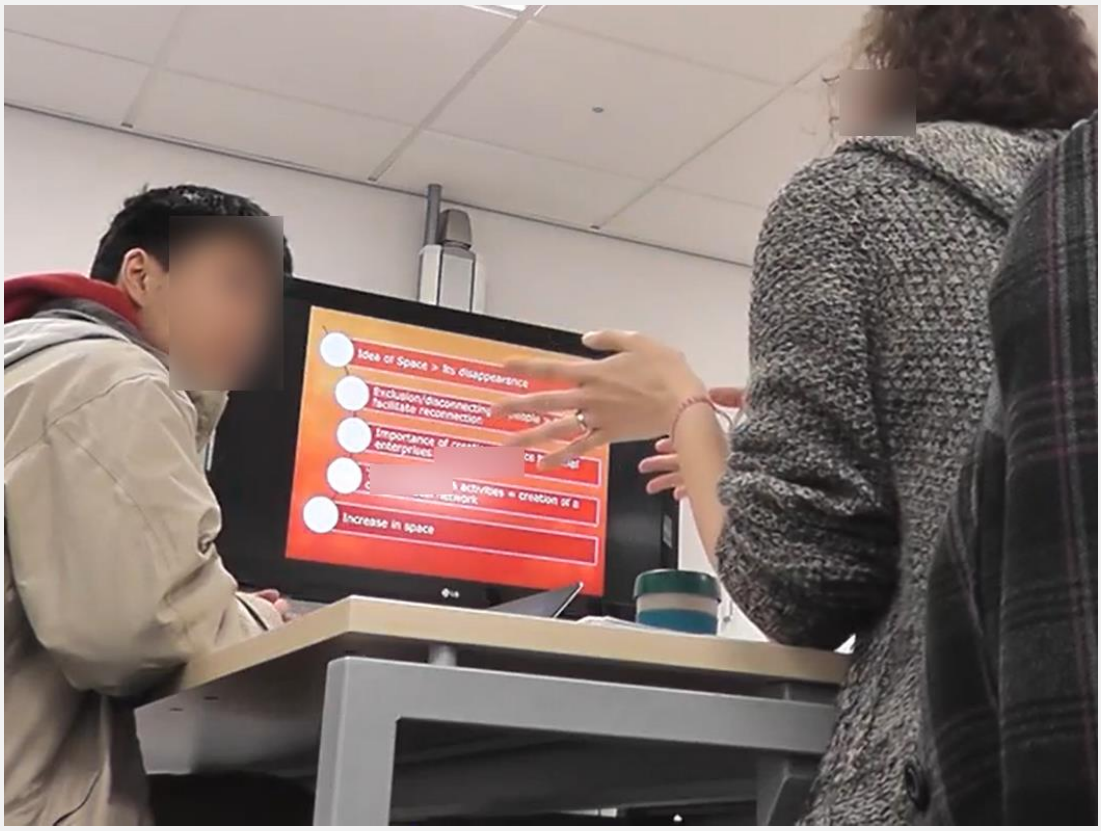
The students described how participation and situated learning allowed them to make connections between the module content and the practical work of the organization and how the topics covered by the representative of the organisation in a guest lecture had informed their decision on the choice of topic for the video essay: 'by that point we were learning about space and public space and working with [the organization]' (ManStudent2) and '[she] had talked about a lot of the activities they do and that they do them in different places and the location of [the organization], so that had already something to do with space and then it fitted quite well with what we had done theoretically before' (ManStudent1). This gave the students an opportunity to 'link theory with [the organization] all together, so that was important to get them both together and maybe think of what would be a good topic to use' (ManStudent1).

Script development allowed the students to combine the insights that they had gained from their situated activity and to consider them in relation to the module material – Critical Incident 1 shows collaboration and script development allowed them to discuss and engage with the module material and to identify the links from this to the organization being studied and the material they had captured for their video.

Critical Incident 1 – Collaboration and participation in script development

What happened?

Four members of Group 1 met in a study room to discuss the content of interviews that they had conducted with members of the organization being studied. ManStudent1 shared a PowerPoint slide of her ideas on the monitor in the room. The students discussed one of the interviewee's views on the loss of 'public' space - the transcript of the conversation is presented in Appendix 6. As can be seen from the photograph, ManStudent1 and ManStudent5 were having an animated discussion about the topic, expressing opposing points of view and exploring them in reference to previous module material. ManStudent2 and ManStudent4 were less involved in this exchange but were listening and contributing occasionally.



Why was the incident critical?

The incident shows the script writing activity acting as a breakthrough, enabling the students to develop, contextualize and apply their knowledge through situated participation and collaboration. The group were collaborating on developing their video script and, through their dialogue, were engaging with the module content

(and content from a previous module) and applying the concepts raised to the situated context in which they were participating. The activity foregrounded this topic and these students used the knowledge gained from the interviews and their interaction with the organisation to discuss the theoretical content of the module to deepen their understanding. The collaboration here shows the features of interactivity, synchronicity and negotiability, identified by Dillenbourg et al. (1996), the latter being apparent where the students 'argue for his [sic] standpoint, justify, negotiate, attempt to convince' (Dillenbourg et al. (1996), p. 9).

Although the students' had some **agency** in the choice of the video content, their decision was informed by the module material. ManStudent3 suggested that, at least for him, the topic was guided heavily by the module handbook:

> *The module outline, the paper, gives us the minimum requirements of the digital essay which we have to cover in that essay, like <quoting from document> 'barriers and location, activities, the processes of physical space'.*

This decision-making process shows that, although there was a close relationship between the topic choice and the module material, space was given for students to make a decision on where to focus their research.

The students felt that the project gave more opportunity for **collaboration** than group projects in other modules had done, but that it shared some of the problems of group work.

Early project planning, including topic choice and interview questions, was done as a group:

> *we kind of just sat together and brainstormed what could be relevant, what could be a relevant question or what could be a relevant topic and basically just scribbled everything down to get a rough idea and then we put it into questions.* (ManStudent1)

and interview questions were based around the concepts covered in the module:

[ManStudent1] made a proposal for the questions and I and [ManStudent5] added some extra questions to make sense. So at that time we take concepts into account… so these are the concepts that run in lectures which we should include as questions as well. (ManStudent3)

While the work began to focus on the structure suggested by one student (ManStudent1) this was an initiating point for collaboration, ManStudent1 suggesting that:

I just had had an idea at home and thought I'll just write it down and see what everybody else thinks about it and they just were like 'oh yeah, that's a good idea, so let's take it'.

This collaboration seen in script development above continued into the production and post-production phases of the project with the students comparing it favourably with earlier examples of group work they had completed, which they characterized as comprising tasks that were performed separately and only brought together in a final output:

I mean mostly what we do in groups is PowerPoint presentations and we get given a topic, a specific area we have to do our presentation on. So you have the chance to kind of divide it into different parts and give it to different group members. (ManStudent1)

Rather than breaking up tasks the students felt that the nature of this activity encouraged genuine collaboration:

this one was more collaborative…. I mean normally we would just break it up and say 'you do this section and you do this section', but for this one we all took pictures, we all looked at all of the pictures and chose which ones we liked, we all listened to the interviews and picked out which parts we liked the most. (ManStudent2)

The nature of the video essay would not allow the fragmented way of working they had experienced previously and the students welcomed the opportunity for collaboration:

I kind of liked it better this way actually, because it wasn't as choppy. I feel like if we would have one person who had have been in charge of

the pictures and one person in charge of the script it wouldn't have really made sense for this type of project anyway. (ManStudent2)

Because it is a creative topic to do and you want to have a proper storyline so you can actually not go and just collect facts and then put that all somehow together in a mesh, whereas if you do a project like this it would be very obvious if we had not worked together as everybody has a different style, everybody has different ideas. (ManStudent1)

I guess it really depends on what you are doing. Because like cutting and stuff you have to do together and you have to, like, talk to other people that they are happy with the result. (ManStudent5)

The theme of collaboration continued into the creative decisions made on the project. After they had completed their interviews with representatives of the social enterprise the group identified the themes that they wanted to focus on in the video:

So we all sent them to each other then we all read them and picked out which parts we thought were most important and then we met up the next time, we compared most of the parts that we thought were interesting were the same. (ManStudent2)

They then met to plan the structure of the final video:

we laid out everything on the table and kind of sat and said, 'oh yeah, this is the flow of everything' and then I took all of those papers and just combined it all and typed it up that night. (ManStudent2)

I had my little, tiny clippings and other people had little things here and there so we matched up which category matched, you know, went well, I just took it all, we folded it all up, you know, we had the pile and I typed it up like that. (ManStudent2)

Critical Incident 2 shows that this collaborative approach to creativity and structure allowed the students, through dialogue and participation, to relate the images they had gathered, the themes that had been highlighted from their interviews, the module material and external sources to create a new meaningful artefact or reification.

Critical Incident 2 – Collaborative storyboarding

What happened?

Once the students had identified the themes for their project and conducted and filmed the interviews with participants from the social enterprise being studied, three of them met to share their script ideas and to identify and select images. The images and interview transcripts were laid out on a row of tables in front of the students, assembled in a very rough order suggested by the mind map that was produced earlier in the planning process. The transcript of the incident is presented in Appendix 6.

Why was the incident critical?

This activity represented a breakthrough, with the students' collaboration and activity bringing together a number of sources to highlight a point that was to be made in the script and to create a new knowledge artefact (or reification). The interchange shows two of the students working collaboratively on creating a storyboard for their video, discussing content and image ideas and bringing together a number of sources of knowledge – an academic journal article, self-produced images and an interview transcript. Storyboarding was used as a collaborative and creative way for students to engage with subject matter to produce new meaning. For the students involved, as can been seen from the photograph, the task was physically participative and engaged, with them moving

around the room and adjusting the positions of the images on the table.

As with Critical Incident 1, not all group members were present for this task representing that fact that, although the activity supports collaboration, the time commitment required can act as a barrier to participation.

As suggested in Critical Incident 2, the heavily participative and collaborative nature of the work, while viewed positively by the students, did lead to problems:

> *you had to kind of always find the time to meet and kind of try to do it together. I really found it difficult to split up the tasks, I couldn't really see how that would work with that particular project. It was necessary to meet more often than I would usually do.* (ManStudent1)

> *Like normally before I make like one presentation we make … we meet up maybe twice or three times but this time actually, I can't …1, 2, 3, 4, 5, 6, 7… we – 8 – we met 8 times.* (ManStudent3)

> *It took a lot of time, and I think it took a lot of group work, which I found takes more time than maybe working by yourself because you have to accommodate a lot more people, you have to … if you work by yourself you can do that more quickly then you come together and put it together….* (ManStudent1)

As well as the time commitment, other aspects of collaborative working did not work for some students. The group was comprised of international students only one of whom was a native English speaker and so some communication problems were experienced. ManStudent4 was not as fluent in English as the rest of the group and so struggled to follow some of the work that was taking place. This was acknowledged by the group – 'there came questions which indicated that he hadn't understood what we were actually talking about' (ManStudent1) – and was raised with ManagementAcademic. A number of discrete tasks were identified for him to complete and while ManStudent4 felt that the division of tasks was fair (expressing in interview that, for example, his language issues meant that he did not feel confident conducting interviews and was happier making notes while listening to the interviews or working on images) he was unable to collaborate fully and, from a sociocultural perspective, he had a less satisfactory learning experience.

ManStudent5 did not feel that the communication issues got in the way of the project overall and felt that the differing backgrounds and skills of the group actually contributed to the project:

> *Sometimes there were the obviously problems with communications concerning different personalities and mentalities and stuff. You have to work that out, but I think the mix in the end it is nice because you get different results. When everybody is thinking the same way you get a certain result and when everybody is various you get different.*

In addition to filming the interviews with representatives from the organization, the students created their own images. As the project was concerned with particular physical spaces this was done so that specific location images could be included. The students worked separately to produce the images and then collaborated on image selection:

> *we directly went there and took the pictures to fit the purpose of our research, so we had something that was already in mind to put in at certain points and some pictures we just put in intuitively when we thought they fit in quite well.* (ManStudent1)

> *well we combined all of our pictures, so a few people went into the city to take pictures and then some of us just had pictures of [the city] from being here, so we combined then all … and we went through them and we were supposed to bring in the ones that we thought were relevant to the topic. And again there was a lot of overlap, we agreed on a lot of the same and when we added the extra ones.* (ManStudent2)

While ManagementAcademic had stressed the importance of expressing meaning, or **reification**, through images, for the students image choice was straightforward and illustrative in a quite literal way ('we take our pictures, we select our pictures which match the voice over' (ManStudent3) although the idea of conveying meaning via images was mentioned by ManStudent1 as an interesting part of the project. Describing how the group 'used some more pictures in the end that were more like an interpretive process thinking "oh, that picture might fit to that kind of text"'. ManStudent1 discussed how:

> *you obviously transmit information differently using a film than writing an essay.… It's also a lot more subjective to the person, to the viewer at*

the end of the day. So, it's quite interesting because it is more suggestive, whereas the essay, I have found, often more theoretical and obviously word based, whereas … you're probably going to achieve, as the viewer, a different outcome than if they read our literature essay or if they see it. I think there is going to be a great difference between the two because you use different similes to kind of bring your message across and that will have different impact, I think. (ManStudent1)

There was a recognition that images could be used to convey specific information as well as achieve an effect with the viewer:

To be honest, first I was, like, a sceptic because formerly I would say that pictures aren't really that scientific, but in the end, what we got out of it gave a really good description of the topic you are going to talk about, specifically when you talk about space. (ManStudent5)

These views correspond with the ManagementAcademic's desire that the activity should allow students to understand 'the use of images in expressing the concepts' and that the use of images should 'enrich the narrative'.

The **creativity** and willingness to participate shown by the students was, at least in part, because they found the activity engaging:

It was more work than I initially thought it would be. But to be fair I love doing things like this! I found sometimes that I took a lot of time and it was a high investment actually in that project itself but I found I personally took a lot away from it as well and since I like doing more creative stuff and putting it together with theory and all these things I probably took quite a lot away from it as well. (ManStudent1)

I think it was more interesting for us than maybe work on other modules this semester. (ManStudent2)

Here the nature of the activity acted as an intrinsic motivation for the students, where participation was linked to enjoyment and personal interest.

As suggested by AcademicSupport in Chapter 4, technical issues in **tool use** caused issues for the group. Only one student (ManStudent3) had done video editing before ('as a kind

of hobby') but he, along with the rest of the group, experienced frustrations with the technology. This was almost exclusively around saving files and projects ('Yes, extremely big issues, especially how do we save the data was the most significant issue' (ManStudent3)).

These issues, which are explored in Critical Incident 3, were the major negative factor in the students' perceptions of the project:

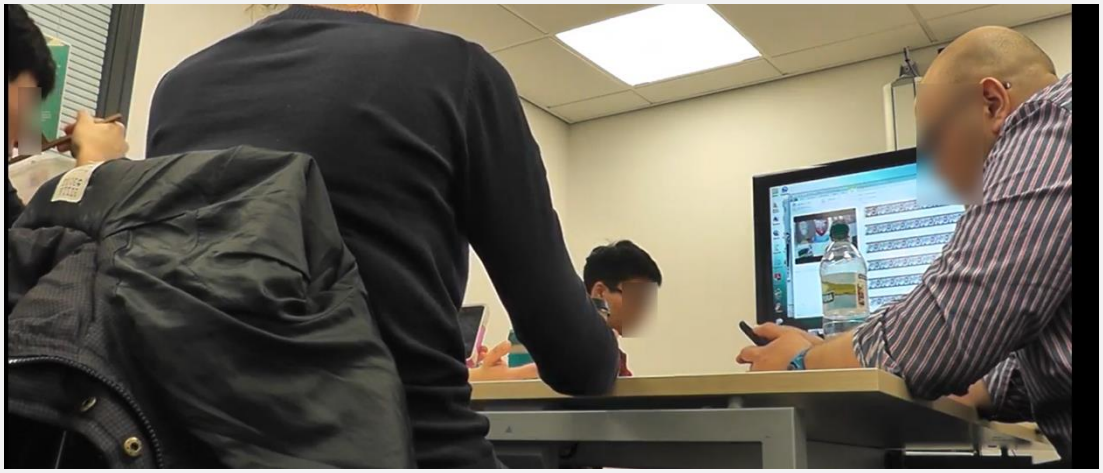
> *I mean I think it was the reason that it felt like it took us so much time was because we had to keep doing things over and over, we kept losing all of our information, but I mean none of us really had a background knowledge on Windows Movie Maker or anything like that, the Audacity stuff, the recordings, so it was new to all of us so it … like we put in, I mean we did put in a lot of time, but it felt like a lot more because we kept doing it over and over.* (ManStudent2)

Critical Incident 3 - Tool use causing a breakdown in creativity and agency

What happened?

All of the students were in a meeting room working on the edit of the interview video material and images that they had collected. During filming a videographer who occasionally works with the organization had been present and, as they had been having some technical issues with the editing software, the students had asked him to advise them. The videographer showed the students how to trim the interviews into shorter sections using the software tool. Throughout this process the videographer was controlling the editing software with the screen being displayed on the shared monitor. The students were inactive – two were watching the screen, two were moving attention between their mobile phones and the screen, one was looking at his phone and one was eating. While working with the video file the videographer discovered an issue with audio playback. There followed a period of six to seven minutes where the videographer worked on the software looking for a solution ('Let me try something'). There were large periods of silence and the students were largely inactive (ManStudent3 and ManStudent2 were chatting while ManStudent5 continued to look at his phone). There were long

periods of silence as the videographer clicked around before finding a workaround for the audio issue, which he explained to the group.



Why was the incident critical?

In this incident a breakdown occurred, where the problems with the tools (or with the students' knowledge of the tools) prevented the students from participating in an active and creative way. In addition to the problems with tool use, the manner in which they were solved (by the videographer and without collaboration or dialogue with the students) made the students inactive and disinterested, with their lack of skill removing any agency from them. An opportunity for the collaboration and the differing knowledge levels of the participants to be used to scaffold learning was missed.

While issues around tool use were frustrating and were felt to have created an unnecessary extra workload, (and were mentioned by each student interviewed), they did not mean that the students viewed the project as a whole negatively:

> *we accidently copied over with an old one and it was, oh, that was the worst! But then I stayed by myself and tried to do what we had done for the past 2 hours so that's the only thing really. That's why it felt like a lot of work, but I think it was an enjoyable project. It wasn't boring. It was more interesting than just a normal group project like a group essay, yeah.* (ManStudent2)

There was even a (tongue in cheek) reference to fact that 'I learned a lot just doing everything over and over again! At least I knew it by the end. Now I know how to edit videos, kind of…' (ManStudent2).

5.2 Groups 2 and 3 - Sport Studies

As shown in Table 4.3, the pedagogy as specified and enacted for these groups, while emphasizing creativity, tool use and collaboration, actually led to a teacher-led approach where the students had little agency and did not work collaboratively. Similarly, the pedagogy as experienced for Groups 2 and 3 shows a transactional, teacher-led view of pedagogy, where the students were focused on outcomes (assessment grade) rather than process and held a narrow view of what was valid as an academic activity and the affordances of different media in expressing their thoughts. Collaboration was viewed as problematic – there was no acknowledgment that working collaboratively might support knowledge creation and there was a clear preference for individual activity. Table 5.2 summarizes the themes generated from the pedagogy as experienced for these groups.

Table 5.2 – Themes from pedagogy as experienced for Groups 2 and 3

Theme	Comment
Most prominent themes	
Collaboration	Group working was characterized as problematic (related to equity in participation) and was not considered to have intrinsic value for learning. The division of tasks led to a focus on cooperation rather than collaboration and meant that some of the module learning outcomes were not available to the whole group. However, collaborative script writing, audio and video editing led to reflection and linking of module material to the assessment topic.
Reification	Students had a preference for expressing meaning through text (which was considered to be more academic). There was a tendency towards literal interpretation in image selection.
Creativity	The creative aspects of the task were not considered to be academic and so the opportunity for creativity was not a motivational factor, although it was found

	to be enjoyable.
Tools	Technology acted as a source of breakdowns that limited agency and creativity, but problems were solved collaboratively leading to the partial fulfilment of learning outcomes.
Reflection	Script writing, audio editing and video editing offered opportunities for reflection both on previous work and on the links between the module material and the assessment topic.
Scaffolding	The assignment task was too heavily scaffolded leading to a reduction in student agency and a strategic approach being taken to assessment.
Less prominent themes	
Situated learning	An opportunity for situated learning was motivated by a strategic approach to the assessment but led to engagement with and increased understanding of the topic.
Agency	Agency was limited by the prescriptive nature of the assessment task.
Signs	Image use for meaning was not emphasized by students and interpretation was literal.
Missing themes	
Imagination	The lack of focus on creativity meant that an emphasis on imagination was not present.
Other themes	
Assessment	Students' agency and creativity was considerably restricted by the requirements of the assessment. Detailed guidelines led to students taking a strategic approach to the assessment task.
Process	The process involved in video production offered opportunities for collaboration and reflection that led to learning, but this was not acknowledged by the students.

As has been seen in Chapter 4, group work was characterized by educators as being problematic. The students interviewed from Groups 2 and 3 shared this view: rather than viewing **collaboration** as important to learning they recounted their previous negative experiences of working with other students. There was a strong preference for individual rather than group work – 'Oh my god, yeah!' (SportG3-Student1). This view was based on the perceived contribution of group members in other projects – SportG3-Student2 mentioned an activity 'last semester and there were two boys who didn't, who, like, literally didn't do anything'. While the students in Group 2 felt that being assigned to a

group with strangers was beneficial ('because if you don't know people you're almost a bit more polite, a bit more organized and a bit more cooperative' (SportG2-Student1)) those in Group 3 felt that being able to choose group members for this assignment eased their anxiety somewhat 'because I knew that we all worked hard and we all got good grades and we could all work together' (SportG3-Student1). Despite these perceived advantages the students did not express any positive or pedagogical reasons for group working. Even the ability to divide up work or the acquisition of 'team working' skills that were identified and shared with them by SportAcademic were viewed negatively, with SportG2-Student1 saying that 'if you've got two or three people writing an essay there's going to be different styles so that was a problem' and 'the whole point of this task is to write an essay but it's all about cooperation, teamwork and all that kind of stuff, delegation and interaction, so that probably made it take longer as well'.

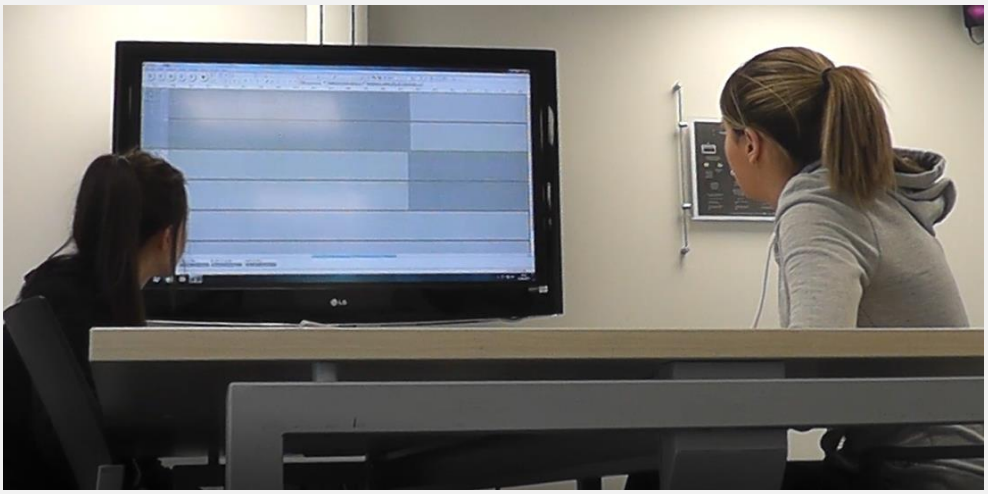
Given their previous experience of group work, the students were enthusiastic about the peer marking process, viewing it as an opportunity to use the marking scheme to encourage participation: 'you've got the peer review for that where you can, like, give them very low marks…. See if you're not pulling your weight, it almost makes people make an effort because they know that they could get less marks for not making an effort' (SportG3-Student2) and 'I think it's good because there were people who worked more than others and in a cynical world that needs to be shown' (SportG2-Student1). These comments continue the framing of group work as somehow in deficit and requiring remediation that was communicated by SportAcademic rather than as a positive opportunity for collaboration.

Despite the framing of group work by both SportAcademic and the students as problematic, the **processes** involved in script writing, editing audio and video editing did, in fact, offer opportunities for collaboration and reflection. Critical Incident 4 and Critical Incident 5 explore how the nature of the tasks involved encouraged students, through dialogue and activity, to collaborate and to consider the module material and how it related to their topic.

Critical Incident 4 - Collaboration in audio editing

What happened?

In an early meeting two students from Group 3 (SportG3-Student2 and SportG3-Student4) met to edit and complete the audio track of the script that had been written. SportG3-Student2 looked at the script on a tablet device while SportG3-Student4 controlled the editing software on a PC, which was displayed on a large screen. They listened back to the some previously recorded material and decided that one of the sentences sounded 'a bit clunky' so they would edit the track and re-record it. The transcript of their conversation is shown in Appendix 6.



Why was the incident critical?

This was a breakthrough where the students worked collaboratively and where the process of audio editing allowed the students to review and reflect on their content. The editing tool facilitated the students' creativity by allowing them to cut, re-record and reorder the existing material. This was not just a technical process, but involved them discussing the structure of the content and so engaging with the topic. The students approached the task in good humour and with laughter and appeared to be enjoying the work.

Critical Incident 5 - Collaboration, participation and reflection in script writing

What happened?

All four of the students in Group 3 met in a group study room to listen to the audio play back of one of the already recorded sections and used it to reflect on and edit the script. They considered the images that they had included, how these related to the script and to eternal material – the transcript is presented in Appendix 6.

Why was the incident critical?

This incident was a breakthrough where a process of reflection and knowledge creation was facilitated by the editing process allowing the students to interact with each other and with outside resources to consider the topic and revisit their previous work. Through collaborative dialogue the students used the editing process to reflect on and consider the content and the use of images to represent the point being made (reification). The students came to an understanding of the topic through reflection and dialogue facilitated by the nature of the process and the tool use.

In addition to the collaboration demonstrated here, students from both groups confirmed that they had worked collaboratively to complete the script. Group 3 identified the script as the 'academic' part of the task and so assigned most of their effort to it: 'maybe sixty percent for the script and forty percent for the pictures' (SportG3-Student2). However, the students' descriptions of how they divided up other tasks exposed a potential problem with the design of the assignment. As we have seen, SportAcademic placed importance on the assignment helping with 'transferable skills' in information and communication technology. SportG3-Student1 said that she 'wasn't… too comfortable' with using the video or audio editing software and the group shared out some tasks cooperatively, with one of the students (SportG3-Student3) doing much of the video editing work: '[SportG3-Student3] done more in the technical stuff and I don't think I'd have been that confident doing that by myself'(SportG3-Student1).

As identified in Chapter 4, the students were given detailed instructions on the structure and content of the video assignment. The students in Group 3 confirmed in interview that they had deliberately followed the prescribed structure: 'we got the marking criteria for the essay I think… a sheet with, like, bullet points and all that on it and obviously we just followed, like, the structure of that… because that's what they were looking for' (SportG3-Student2). This practice confirms that the students' reliance on teacher-produced guidelines and the subsequent restrictions on student **agency** and **creativity** affected the work that the students completed and that detailed instructions around **assessment** encouraged the students to take a 'strategic' approach. The role of the assessment guidelines in preventing the students from exercising agency or creativity is explored in Critical Incident 6.

Critical Incident 6 - Agency and strategic approaches to assessment

What happened?

At an early stage, three students from Group 3 met in a group study room to discuss how they would approach the project. Early in the meeting there was a brief discussion of the content ('Do you think we should describe what Zumba is?'), but they quickly moved on to discuss both the video structure and the distribution of tasks. Early in the meeting SportG3-Student3 looked at the assignment guidelines document on her phone and said: 'If we write, even like the main part of it – if we write that bit, then like one of us can go home and do the conclusion and one can do the introduction as long as we try and get the main part done and obviously structure it the way it is there'.

Why was the incident critical?

This incident was a breakdown in collaboration, student agency and creativity. The notion of group working presented here is cooperative rather than collaborative and is concerned with the division of labour (in line with the pedagogy as specified and enacted). The video structure is consciously based on that suggested in the assignment guidelines. The close following of the structure

set out by the teacher shows that the students are to some extent taking a transactional and strategic view of the activity and following the teacher-led model, which is removing their agency and opportunities for creativity.

The strategic approach to the task demonstrated in Critical Incident 6 was also represented in the choices of media and topic made by Group 2. Discussing the inclusion of a video interview with a prominent figure from women's sport in the group's final video, SportG2-Student1 said:

> *… so I said 'Look, I'm going to this [name] conference it might look good if I could get a…', because [SportAcademic] actually mentioned that in one of the lectures, she said 'this [conference] is coming, if you could get someone to go and get an interview' and I thought 'Well I could do that!'. Anything for extra points! So I just said to the guys 'I've got this idea. I'm going to this conference would you guys be cool if we did it on equality?'*

The availability of an interview subject at the conference was seen opportunistically as a way of gaining marks and was one of the drivers behind the choice of topic. While attendance at the conference provided an opportunity for **situated learning** and **active participation**, with the student in a certain participation role, it was transient in nature and the primary motivation was driven by a strategic approach to the assessment criteria. However, as shown in Critical Incident 7, even this short engagement with situated learning allowed the group to consider the points raised in the context of their own learning.

Critical Incident 7 – Situated learning

What happened?

Four students from Group 2 met in a group study room for an initial meeting to decide the topic and to begin the script for their video. SportG2-Student1 described her attendance at a recent conference – the transcript is presented in Appendix 6.

Why was the incident critical?

This was a breakthrough where, although SportG2Student1's initial motivation for attending the conference and interviewing one of the participants was a strategic attempt to gain marks in the final assessment, engaging with the conference participant (a prominent woman in sport) had enthused the student (her speech was animated) and led her to engage with the topic. While active participation was not part of the pedagogy as specified for this group, by acting agentively SportG2Student1 had found a situated, authentic voice that allowed her to start thinking about the topic and how the material that she had gathered could contribute to the content and structure of the video.

The students in the groups were not convinced of the rationale behind the video assignment task. When asked about the task overall, SportG3-Student1 said that it did not feel like an academic exercise, but when asked specifically about the script writing said, 'Oh yeah, that was academic'. Their focus on producing the script was partly driven by the marking scheme, but also by their view of an 'essay' as an academically robust form of assessment. It was during script production that they engaged with the course material and other sources: 'we used like the, obviously, lecture slides and stuff and then like a few recommended readings and stuff' (SportG3-Student1).

There was agreement that the additional tasks around image selection and manipulation, audio recording and editing were not valuable:

- 'I think she just wanted like an aspect of creativity, by doing the video and having the pictures and seeing what we could do other than just write an essay, but I don't really think that proves anything or means anything to be honest.' (SportG3-Student1).
- 'Well you pretty much do an essay and then you have to do all the extra stuff.' (SportG3-Student2)

- ‘We just ended up having, like, pictures to go with words. You would find a picture to match the words and put it in, find another picture – the same thing over and over again.‘ (SportG2-Student4)

While this ‘extra stuff’ was enjoyable, it was not regarded as academically sound: ‘obviously the script is probably just about the same, like the essay, but then the pictures and all that, like that was more like fun, than normal’ (SportG3-Student2). **Reification** here is focused on the written word rather than images or video.

The students were vague on the rationale behind the activity (‘I think I remember her saying that it was more like for when you have to do like a job interview, I think’ (SportG3-Student1)) and felt that it was not related directly to the module content – ‘I understood that this isn’t really about the kind of key concepts and the theories’ (SportG2-Student1). As such, they felt that other forms of assessment would have been equally valid:

- ‘I could have got the same out of the essay’ (SportG3-Student1)
- ‘I’d probably just prefer to do an essay’ (SportG3-Student2)
- ‘I think I still prefer essays’ (SportG2-Student 4).

These latter comments suggest that the students did not see the value in the opportunities to work collaboratively (as might be ascertained from their views on group work) or to express themselves in media other than the written word. A lack of engagement with **creativity** and **imagination,** and the lack of emphasis on active participation and situated learning, were confirmed by their comments on how they found and selected images where there was:

- an emphasis on images to match the script: ‘we all… read maybe a sentence and then we’d all decide what picture would kinda relate to that sentence and then we’d get a picture’ (SportG3-Student2)
- an almost literal interpretation of image to match the script: ‘when we’re talking about the history of PE we showed just a black and white picture where they were like in a military style’ (SportG3-Student1)
- and a description of a desk-based search exercise rather than full engagement and participation: ‘the images were just searched for on the internet, there wasn't any

kind of going out and taking your own images or stuff like that'. (SportG3-Student2)

As well as the prescribed nature of the structure, as seen for Group 1, technical issues and the students' ability to overcome them, caused breakdowns in their ability to be agentive and creative. However, as explored in Critical Incident 8, the problem-solving approach taken by the students was collaborative and participative and led them to better understating of the tools being used, which was one of the stated learning outcomes of the module.

Critical incident 8 - Tool use, agency and creativity

What happened?

Two students from Group 3 (SportG3-Student3 and SportG3-Student4) met to go through the process of adding images to the pre-recorded audio track using the video editing software. Towards the end of the session, having completed the task, the students watched back a full-length version of the video. After a short discussion they decided that there were too many long pauses in the audio track and that they should edit it with the intention of re-importing it into the video project file. After around 20 minutes of audio editing, where they divided the audio track into chunks in the editing software and moved them around, they realized that some of it was now out of order. The transcript of their conversation is presented in Appendix 6.

Why was the incident critical?

This sequence of events initially appeared to be a breakdown in creativity caused by the students' inability to use the technology to produce the outcome that they wanted (an audio track with fewer pauses) due both to their inexperience and the poor usability of the tool. The students' frustration with the task was evident in their interactions and the resigned laughter that accompanied their outbursts. While, in one way, this prevented the simple execution of their creative wish, over the course of the interaction it did lead them to come up with a creative solution to the problem that they faced. They did this through discussion and

through coming to an understanding of the limitations of their initial approach. While being a painful lesson, the collaborative nature of the task, peer learning and engagement facilitated their eventual understanding – this could ultimately be viewed as a breakthrough and can be contrasted with the less participative problem-solving approach shown in Critical Incident 3.

5.3 Group 4 – Computing and IT

In the pedagogy as specified and enacted for Group 4 (as shown in Table 4.4) the themes of collaboration, agency, participation and the use of tools to express meaning (reification) were prominent. In addition there was an acknowledged emphasis on the process of video production, scaffolding and reflection. These themes were also represented in the pedagogy as experienced, where creativity, reification and reflection were prominent. Scaffolding around creation and tool use was successful, but the emphasis on process was not reflected in the assessment where students acted strategically. The themes for the pedagogy as experienced are summarized in Table 5.3.

Table 5.3 - Themes from pedagogy as experienced for Group 4

Theme	Comment
Most prominent themes	
Creativity	The opportunity for creativity was motivational and engaging. It contributed to learning and encouraged experimentation.
Reification	Students engaged with expression of meaning through images. Students focused on storytelling rather than academic content and structure.
Reflection	The novelty of this form of expression encouraged different ways of thinking (such as storytelling).
Collaboration	While distance meant creation was an individual activity, collaborative activities encouraged reflection, but there were issues with students' willingness to be critical.
Scaffolding	The embedding of assessment activities within the module material was successful Students used the comments of others to reflect on their own work.
Active participation	Collaborative activities in online forums allowed students to reflect on their own work and place it within the context of others.

Agency	Agency was somewhat restricted by time pressure and the requirements of the task.
Signs	Agency in the creative process allowed students to experiment with the form of video material and how this is used to express meaning.
Imagination	Imaginative experimentation in video, images and audio was reported.
Tools	There were no technical issues for this group. Tool use facilitated experimentation, creativity and agency.
Less prominent themes	
Situated learning	Due to distance the collaborative aspects of this activity were situated in virtual rather than physical space. This was considered to be authentic by students.
Other themes	
Process	While embedding activity within content was viewed positively students acted strategically with those parts for which they received marks.
Assessment	Restrictions acted as a limitation on creativity and agency, but there was acceptance of this in the context of assessment. Retrospective assessment of process led students to act strategically.

The students in Group 4 had little previous experience of video production – two had done none at all and two had dabbled with making slides shows from their own images as hobbyists, but did not think they had what they considered to be skills in this area. As such, this activity was the first time each student had experienced video and audio editing **tools**. In contrast to Groups 1 to 3, none of the Group 4 students reported anything other than minor technical issues, though this might be expected from students studying computing and IT subjects. All reported that they had managed to complete the task within a time that they felt was reasonable and most felt that it was completed more quickly than a similar written task would have been ('easier, certainly easier' CompStudent4)).

The students were enthusiastic about the creative potential of the activity and were actively engaged with it:

The only thing I found was I wanted to do a lot more with it… because I found it quite intriguing and interesting. (CompStudent1)

I learned quite a lot from it as well and I'm actively away taking photos as well whenever I see something that just comes up. (CompStudent2)

As further evidence of this enthusiasm, all students felt frustrated by the restrictions in format and media that were imposed on the task:

I would like it if you had more freedom, maybe decide to be more creative. (CompStudent4)

If I could I would use more of my own images as well because these are more personal to me. (CompStudent2)

As was discussed above, the limitations were imposed to allow the task to be completed on time (and the requirement of some peer-to-peer interaction meant that the task had a strict timetable) and so that the students were focused on the development process rather than spending time searching for images, audio and video clips. While not unreasonable, the time pressure introduced by the activity having elements of peer working and assessment applied a limitation on the students' **creativity** and **agency**. There was a recognition among the students that the task was intended as a learning exercise and so the restrictions were somewhat accepted:

Albeit I thought there was restrictions but I do think it was quite a good learning curve for me as it made me think a bit more about what I was doing. (CompStudent2)

The nature of the medium and the variety of the task, compared to more usual written assessment, was credited as being behind the students' creative enthusiasm:

it's good in the respect that when you are doing written answers obviously you can just refer back to the text and its almost you're looking for the right bits and making sure you can do that bit correct, whereas that one they seem to draw information from all different bits, like you had to get your thoughts, like your initial thoughts, and you had to see how they were influenced by what you could try. You had to get

all the media and all that to kind of match up so you could tell the story. It was bringing in a lot of different things. (CompStudent1)

Students had opportunities for **imaginative** and experimental work with the **signs** of audio-visual media even within the restriction in form, for example, experimenting with sound: 'I thought it would be a bit more interesting to use those computer-generated voices' (CompStudent4); or with pacing of image transitions:

I wanted to do a sort of more interactive, like start out slow with pictures and get a bit faster building up as the video itself went on. There were a couple of restrictions but that was quite interesting as it made me think about what I was doing and how to format it. (CompStudent2)

Part of the students' engagement with the activity was reflective of the stated goal of giving students 'breathing space' within the module, with one student commenting that 'it was a nice break from the other ones [assessments]... it was a nice break from having to do all those reports' (CompStudent4).

The group activity where other students' work was viewed and commented on by their colleagues, was successful in the stated intention of getting students to **reflect** on their own work. This occurred both during and after production:

In hindsight you wish you had done more when you seen everybody else's. (CompStudent1)

When you saw the other people's ones it sparked so many ideas about how they'd handled it. (CompStudent1)

It did spark a little bit of imagination as well. You could see somebody posted and you're working on yours and you'd think 'oh, I need to work a little bit harder'. It egged you on a little bit to do something a little bit better. (CompStudent2)

The nature of these comments also shows that the **active participation** and **collaboration** involved in this activity helped the students to improve their own work, in a way that, though feedback and viewing the work of others, was analogous to **scaffolding**, with peers acting in the role of supporting development.

The storyboarding activity, which, as discussed in Chapter 4, was intended to promote reflection, did not, in fact do so. While all students made some kind of plan before proceeding with the video production these were mostly vague and tentative:

> *I just used a Word document and just started typing.* (CompStudent2)

> *I did a sort of draft, got a general picture of what I would do and just built on it.* (CompStudent2)

> *I've got my notes and they were done as a memory map.* (CompStudent1)

The creation of a storyboard, presented in the module material as a step in the pre-production of the video, with an opportunity to redraft as the production process began, was actually completed afterwards as a separate task by all of the students interviewed in order to fulfil the requirements of the **assessment**:

> *I thought I'd go back and think 'what exactly did I do that I could put onto a storyboard'.* (CompStudent3)

> *I drafted my notes into the format that [the lecturers] were looking for.* (CompStudent2)

While the collaborative review and discussion activities were viewed as useful for reflection there was frustration among the interviewees with what was perceived as a reluctance to be critical of other students' work.

> *I think people were maybe a bit reluctant to be too honest.* (CompStudent4)

> *In my own opinion some people weren't being as honest as they should have been about other folk's work. It's very difficult….* (CompStudent1)

> *I don't think it was constructive. I think people were afraid to be too negative in case it bit them on the backside!* (CompStudent3)

There was some appreciation that this collaboration was a simulation of a **situated learning** activity (sharing video material on the internet), where there was a defined purpose and context around the discussion activity (to critique and consider other people's work) rather than more abstract discussion board activities such as those where

students are asked to express an opinion on a topic and reply to at least one other student's posting.

It was felt that the synchronous chat session was a more effective form of communication as the nature of the tool led to more spontaneity leading one student (CompStudent3) to say that 'I think people were slightly more open' and 'there was a bit more humour – it felt good'.

Another benefit, particularly relevant for distance learning students is that the activity allowed students to feel that they were interacting with their peers:

> *You got to learn so much about the different people who were on the course. Everybody seemed to be making wee mistakes and that. I thought it was quite good how that worked out. Almost like a kind of camaraderie thing where you knew you were going to get it wrong and a wee bit embarrassing.* (CompStudent1)

> *It was an eye opener to see how other people... the people that are in our tutor group are just names but it was nice to have a little bit more interaction with them as well. I thought that was a good thing, because you got to learn what people are like and what their thoughts and feelings are a little bit.* (CompStudent2)

Students felt that the exercise was authentic to the programme that they were studying: 'We're on a computing course so getting involved online in different kinds of media, that's what it's all about' (CompStudent2) and that the nature of the media and the collaborative working allowed them to express themselves in a way they might not in other academic work: 'It was quite personal to some people' (CompStudent3).

The way that the assessment was embedded into the activities was perceived as positive ('I really enjoyed it as an exercise. It was really good' (CompStudent2)), but, in at least one student's mind, there was a disconnect between the embedded activities (contributing to discussions, etc.) and the requirement to submit a word-processed file with evidence of this work, with this being seen as 'mainly a box ticking exercise, because we had already copied and pasted kinda comments we made and comments we received' (CompStudent3).

5.4 Summary of findings

Chapter 4 showed that the pedagogy as specified and enacted for each of the activities studied here emphasized the importance on group work, but that this was conceptualized in different ways. In this chapter we have seen that, in the pedagogy as experienced, the conceptualizations of the academics were, in some ways, reflected in the practice of the students with, for example, the students in Group 1 valuing the situated and participative nature of the task and those in Groups 2 and 3 dividing up tasks in a more clear-cut way. However, as evidenced in a number of the critical incidents, the process of video creation and review encouraged and facilitated a collaborative and reflective approach to learning that was experienced by all groups, whether designed or not. This highlights the importance, as identified in the literature review, of the *process* of video creation for learning.

Where opportunities for situated and active approaches to pedagogy were available they engaged students, allowed them to place the module content into a wider context that let them conceptualize it in different ways and began the process of them developing participative identities.

Where creativity and agency were emphasized students found it valuable to be able to express meaning in different ways but, where the importance of creativity was not communicated, and where agency was constrained by restraints on creativity, students did not see alternative ways of expressing meaning as academically valid. Where scaffolding limited their agency students acted strategically following the given structures in order to gain marks in assessment. This was not the case where they were given more creative choice.

As seen in Chapter 4, creativity was considered by the academics as being difficult to assess, and so it was not always attempted. Where efforts were made to assess the creative process through the submission of accompanying artefacts (for example, storyboards) students still acted in ways intended to maximize marks, such as submitting items created after final video production, so the attempt was not always successful.

As was illustrated in the critical incidents, tool use could act as a constraint on student agency, where lack of knowledge placed limitations on creativity. Collaborative problem-solving, however, facilitated skills development in this area leading to partial fulfilment of some of the stated learning outcomes.

Chapter 6 considers the implications of these findings, and those presented in Chapter 4, in relation to the literature presented in Chapter 2 and begins to assess their implications for practice.

Chapter 6 Discussion

The purpose of this study was to consider how digital video can be used to support a sociocultural approach to teaching and learning in higher education (HE). Having, in the preceding two chapters, presented the findings from the four groups studied, this chapter begins by considering the overall pedagogical approach of each activity before moving on to consider how the themes identified as representing a sociocultural approach in Chapter 2 give us transferable insights from these activities that can be applied to practice more widely.

6.1 Academic and student approaches to pedagogy

As was seen in Chapter 2, it is very uncommon for teachers in HE to identify a specific pedagogical approach or theory as informing their practice (see, for example, Drumm, (2019)). While none of the academics studied here specified a particular educational theory as informing their approach to learning and teaching, Chapter 4 showed that all of the activities, to a greater or lesser degree, included elements identified in the literature as being present in pedagogy informed by sociocultural theory. Although it was not always through intentional design, this study found that video production promoted learning and teaching that included elements such as active participation, collaboration and situated learning. Even where collaboration was conceptualized differently by the educators in this study (see below) it was present in the pedagogy as experienced for all groups. Media production also promoted student creativity and agency, although the extent of this was dependent on the amount of scaffolding given (and, by implication, the extent to which the activity is student led or teacher led), issues around tools use and the requirements of assessment. Video production allowed students to express meaning in different ways but the academic value of doing so was not always apparent to students and this affected their approach to reification.

Figure 2.2 (reproduced as Figure 6.1 below for ease of reference), which mapped Young and Moe's (2014) model of video use in education to a continuum developed from McCormack and Murphy's (2008) description of approaches to pedagogy, was used as a tool for categorizing different approaches the use of video. Plotting the activities studied

here against this continuum gives some insight into how the various elements that make up the practical pedagogy support (or not) a sociocultural approach and what this implies for learning.

Consideration of the pedagogy as specified and enacted for Groups 2 and 3 places them somewhere to the left of the continuum. There was a repeated division, made explicit in the module learning outcomes, but also featured in other documentation and course materials, between 'knowledge' (or the module content) and 'skills' (or the processes that create knowledge). This implies a view where knowledge is viewed as an objective external reality separate from the experiences, activities and context in which learning takes place. The fact that 'academic' learning outcomes are consistently separated from 'skills' in the course documentation (and by students) does not suggest a holistic sociocultural view where the tools of production and the outcomes of production (reification) are embedded in the pedagogical approach. As seen in Chapter 2, a sociocultural approach would reject the view that knowledge can be separated from the processes and practice that make its construction possible. The view of pedagogy suggested here is manifest in practice by a teacher-led approach where students' agency is somewhat curtailed.

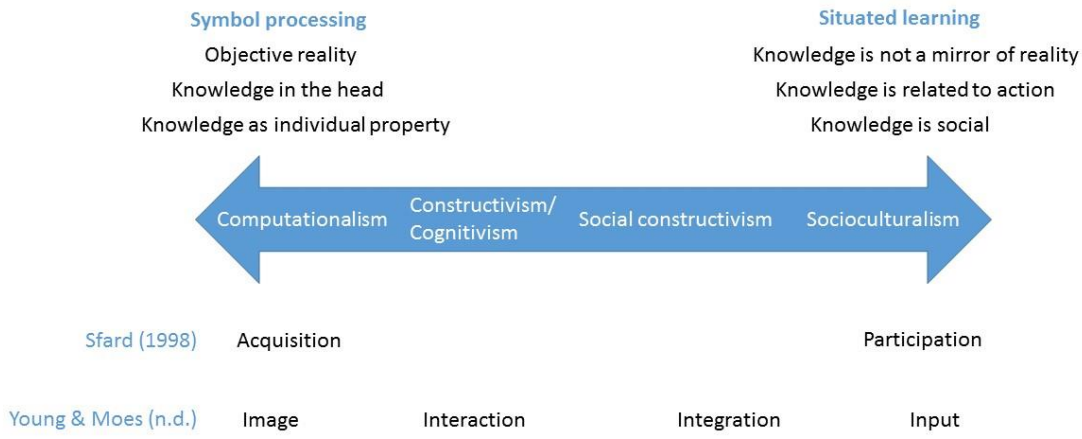


Figure 6.1 - Sfard's (1998) AM and PM and Young and Moes' (2014) four 'I's model mapped on to McCormack and Murphy's (2008) continuum (copy of Figure 2.2 for reference).

Moving along the continuum, the pedagogy as specified and enacted for Group 1 suggested that, while some of the themes present in a sociocultural approach, such as situated learning and active participation, were central to the module pedagogy, they were not considered as an inseparable, cohesive whole. This educator would fall into the category that Drumm (2019) describes as 'displaying a nuanced blend of pedagogies' (p. 8) while never 'referring to the pedagogical affordances which, from their own descriptions, they appeared to be employing' (p. 9). ManagementAcademic's pedagogy was student-centred, seeing them as agentive and active in constructing their own meaning, and this was apparent in the pedagogy as experienced. While this places the activity towards the right of the continuum, issues around the assessment and grading of group work suggest that the view of knowledge and learning represented does not entirely reflect that identified by McCormack and Murphy (2008) as representing a fully sociocultural approach.

The pedagogy as specified and enacted of the activity undertaken by Group 4 would represent a further move to the right of the continuum in Figure 6.1. As seen in Tables 4.4 and 5.3, most of the themes generated from the literature in Chapter 2 were present. There was an emphasis on active participation and collaboration that was encouraged even though the students were studying at a distance. As for Group 1, however, while the assessment moved some way towards considering the importance of process in learning through media production, rather than just the outcomes, there was a disconnect between the enacted pedagogy and how it was experienced due to a lack of alignment of the method with the assessment.

Moving on to the pedagogy as experienced, Richardson (2005) considered the implications for practice of students' ideas about learning. He reported research showing that students whose conceptions of learning saw it as increasing knowledge, memorizing or the acquisition of facts or procedures demonstrated a surface approach to a learning task ('those who adopt a surface approach take a passive role and see learning as something that just happens to them' (p. 675)), while those whose conceptions involved the abstraction of meaning or viewing learning as an interpretive process took a deep approach (where they 'take an active role and see learning as something that they themselves do' (p.675)). This led Richardson to conclude that it is difficult to design effective student-centred interventions as students pre-existing conceptions of learning affect their behaviour – 'students who hold a reproductive conception of learning through

exposure to subject-based curriculum may simply find it hard to adapt to a more student-centred curriculum' (p. 675).

Across the groups, students' conceptions of pedagogy were mixed and in some ways aligned with the approaches taken by the educator in each activity. While acknowledging the value of collaboration and cooperation, all students to some extent viewed group work as problematic. Their concerns were practical and focused on lack of participation by colleagues, both in terms of activity and in being honest in giving feedback, and pressure to participate personally, with students reporting an increased workload compared to other activities. As was seen in the pedagogy as experienced however, even when educators were unclear on how they conceptualized group work, students collaborated enthusiastically in ways that promoted learning and saw value in this. There was, therefore, a conflict between their expressed view and their actions.

Those students who participated in activities situated in authentic contexts greatly valued the active and collaborative nature of the tasks, recognizing that this allowed them to deepen their understanding of theoretical material. Again, this was true even when it was not specifically designed into the activity.

Those students who were given the least agency and opportunity for creativity, in terms of being given a heavily scaffolded structure to follow, saw the least value in the expression of meaning via video, considering it to be less academic than other forms of assessment, such as an essay. Those who were given some structural guidance but had agency in topic choice and content saw video as a useful way to express concepts. This division also coincided with the extent to which an emphasis on expressing meaning through content was communicated to the students.

While all student groups to some extent worked strategically around the requirements of assessment those that were given the most specific guidance did this to the greatest extent. Where scaffolding was extensive there was emphasis on students following a teacher-led approach that encouraged a passive model involving the reproduction of knowledge (an approach that, according to Richardson (2005), encourages surface approaches to learning) while scaffolding that supported agency and creativity encouraged the active participation and the abstraction of meaning (or reification) and, therefore deep learning.

6.2 Sociocultural pedagogy and practice

Having briefly considered the approaches to pedagogy of the participants this section will move on to consider in more depth how the themes generated in Chapter 2 were manifest in practice and how this contributed to or impeded learning in each activity. As stated in Section 3.3, thematic analysis was performed using the six phases suggested by Braun and Clarke (2006) (Table 3.2). While initial analysis was deductive in nature, with the themes generated from the literature review being identified in the data, Phases 4 to 6 involved the development of these themes as analysis was performed. This section will also, therefore, consider this development. As will be seen, there was significant overlap and interconnection between themes highlighting the importance of the overall *process* in digital video creation activities. The themes are considered here in the order presented in Chapter 2 and the discussion is summarised in Table 6.1 (p. 162).

6.2.1 Scaffolding

There were three different approaches to scaffolding taken in the groups studied:

- light scaffolding of structure, but with student agency in topic choice and content
- heavy scaffolding of structure
- heavy scaffolding of participation in the construction of video but with student agency in creative choices.

As discussed previously, supplying students with a very detailed list of expectations around the nature of the final product, combined with students' tendency to work strategically around assessment, inhibited the potential of the activity to promote learning by removing some of the opportunity for students to employ agency, imagination and creativity. While this support does represent scaffolding from a more expert practitioner and acknowledges the potential of students from working with others, it also presents a teacher-led model of pedagogy that promotes a strategic and surface approach to learning. This was seen in the students' focus on meeting assessment criteria and relative disengagement with taking a creative approach to making meaning.

Where scaffolding was lighter or where the teacher modelled practice in the learning material that was then presented as an activity for students, there were opportunities for student agency and creativity. In the latter case, where the activities, either in the learning material or in situated practice, built up to form assessed work there was a direct

link with Gibbs (2019) notion that assessment should encourage deep learning by students engaging in sense making activities where assessment requirements 'engender appropriate, engaged and productive learning' (p. 29). Here there was a balance between the teacher leading students by scaffolding the activity that led to assessment and allowing students agency to use the ideas generated in their own creative way.

By employing a learning design that uses the module material and the activities that flow from it to build into assessed work educators can support a pedagogy that views active participation as central to students' learning. This allows students to use assessment as an opportunity to create rather than to reproduce meaning.

6.2.2 Collaboration

As seen in Chapter 2, Dillenbourg et al. (1996) define 'collaboration' as an active process that includes interactivity, synchronicity and negotiability. They contrast this with 'cooperation', which they consider as concerned with the division of labour and with students completing sub tasks that are then combined to make a final product. In this study neither academics nor students distinguished between collaboration and cooperation in this way and tended to use the term 'group work' to describe both. In all cases, group work was framed as a skill to be developed in the student (i.e., an outcome of the process) and included elements of organization, contribution, communication and commitment. There were different conceptualizations across the groups of whether group work was an intrinsic part of the activity where collaboration was the means by which learning took place and the different approaches were visible in practice.

Where there was a conscious separation of the academic content from the skills that were being developed, group work was framed, in all levels of pedagogy, in terms of cooperation rather than collaboration – this conceptualization did not emphasize group work as involving collaborative knowledge construction or as a positive and important part of the pedagogical approach. It focused instead on getting the work done. This, along with a view of group work as problematic, encouraged an individualistic approach to learning. This meant that, in places, students worked separately and so could not achieve all of the stated learning outcomes for the activity, particularly in terms of skills development.

Despite this, and as seen in the critical incidents in Chapter 5, even where it was not emphasized, students did work collaboratively in smaller groups around script production

and video and audio editing, with the nature of tasks required around media production facilitating and encouraging this. This collaboration, which included interactivity, synchronicity and negotiability, allowed students to participate actively and reflectively with peer interaction giving insights into the module content and allowing for creative links to be made to other sources

Where group work was part of a collaborative, situated and active pedagogy, video production prompted dialogue around the module content and allowed students to benefit from this even when they had differing levels of participation in it. The commitment required for this type of collaboration, however, highlighted potential inequality in the student experience. Group 1 in this study, for example, comprised international students only one of whom was a native English speaker – this led to communication problems and an issue with the equity of experience for one student who could not participate to the same extent as others. The fact that this student was unable to collaborate fully (and ended up working in a cooperative model) meant that, from a sociocultural perspective, he had a less satisfactory learning experience. For the activity to work fully it is important that both the educator and students are aware of the importance of collaboration and that mitigation is put in place if group work proves to be problematic – in this case this might have included language support.

For students studying at distance, collaboration in media production was more difficult to support and so it was used instead to encourage reflection and development through peer discussion once production was complete. This reflects the importance placed on collaboration by the educators but recognizes the limitation that working at a distance placed on these students. A useful extension in this activity, that would recognize the importance of the process in learning through media production work and that would facilitate the actions seen in other groups, would be the use of online video collaboration tool (such as frame.io) to allow students to annotate and comment on iterations of the video as part of a collaborative editing process during the production phase.

This study showed that media production supports student collaboration, and in so doing promotes active participation, reflection, scaffolding and creativity. As suggested by Dillenbourg et al. (1996), cooperation arises from collaborative activity, and this was seen in the groups studied here, so the importance placed on group working skills by academics could continue to be facilitated by this task.

6.2.3 Active participation and situated learning

In a sociocultural approach, active participation is a social practice closely linked to situated learning, so they are considered together here.

This study has shown that where pedagogy is based on collaborative, participative and situated learning, supporting Lave and Wenger's (1991) conception of learning as an active 'integral part of generative social practice in the lived-in world' (p. 35), it allows students to participate in a new context and to develop identity through participation as part of a sociocultural community. For those students who interacted with staff from external organizations there was an opportunity not only to extend classroom practice in ways that brought students new understandings of the topics being covered (for example, how Management students viewed public space in their city) but also to develop participative identities and relationships with practitioners through attendance at events, observation and interview.

Even where there was little evidence that a participative, situated approach was an important element of pedagogy, when a student did attend an event and record an interview with a practitioner it proved to be valuable in giving a wider context to the topic being studied and in providing motivation (although, as noted in Chapter 5, the engagement was partly driven by an opportunity to increase the assessment mark). For those students for whom the activity was purely desk based there was less opportunity to frame the subject matter within wider practice or to participate actively and collaboratively thus meaning that the activity did not allow them to develop themselves outside of their context as learners.

While physically situated collaborative learning was not possible for those students studying at a distance there was a desire (in the pedagogy as specified) for the nature of the activity, its topic and form, to allow students to learn and develop through participation in ways that were, perhaps unintended and surprising. CompAcademic1's description of students changing their study plans as a result of completing the activity showed a pedagogy that through activity and participative relationships acknowledged that 'learning .. implies becoming a different person with respect to the possibilities enabled by these systems of relations' (Lave and Wenger, 1991, p. 53).

As mentioned in the preceding section, all of the academics who took part in the study identified employability skills being developed as part of the activity. These included

research, communication, presentation and digital skills. From a sociocultural perspective, learning occurs through the *process* of participation and collaboration while this emphasis on employability sees skills, in, for example, group work, as an *output* of the activity. While this may seem to represent a tension, Lave and Wenger (1991) describe situated learning as allowing learners to take on differing participative identities as they move into a community of practice – these identities involve developing the signs and tool use of that community (for example, language and skills). The students working on situated activities were, therefore, through learning the norms of communication and practice in those contexts, and in using signs and tool to create meaning through technology, developing skills that were valued in those situations, a process that can be considered as synonymous with learning 'employability skills'.

This study has shown the value of video production activities being participative, collaborative and situated in an authentic context. As a result, educators should consider how they can support a situated approach, either through physical interaction with external participants or environments or through the simulation of such activity.

6.2.4 Agency

In Chapter 5 a link was identified for each group between agency and creativity. Limits on both of these were imposed by educators being too prescriptive in their requirements, students working strategically to assessment guidelines, student self-regulation, limitations on resources and problems with tool use (which is considered separately below).

Considering the first of these, the pedagogy as specified and enacted for Groups 2 and 3 had a strong focus on a structure and content plan produced by the academic. In the pedagogy as experienced this diminished the agency and creativity of the students and encouraged them to take a strategic approach to the task and the assessment, as was shown in Critical Incident 6. The approach to agency presented for these groups did not place an emphasis on the importance of learning from the process of media production and encouraged them to follow the prescribed structure to gain marks in the assessment.

This tension between agency and assessment was also apparent, to a lesser extent, in the other activities. ManagementAcademic suggested the use of 'a conventional structure' to students when creating the video and directed the students towards what to address in the module content, but they had freedom in topic choice and form. While this meant

that these students did not attempt to take a strategic approach to the assessment, ManagementAcademic linked agency to a skills-based outcome (self-management) rather than expressing it as an intrinsic part of learning. As was seen in Chapter 2, and was clear in the pedagogy as experienced in Group 1, self-regulation is required for students to act agentively, but, in a sociocultural approach, agency is considered as important for learning rather than as a skill to be developed.

For Group 4, the pedagogy as specified and enacted encouraged agency, imagination and creativity, but the marking scheme did not reward these. While scaffolding allowed students agency to create new meaning attempts to include artefacts of the creative process in the marking scheme did not actually assess this and so were treated strategically by students.

In order to promote student agency, it is important that scaffolding, particularly around assessment, is supportive and that it decreases as the activity progresses, facilitating students in their own creation of meaning, rather than directive and supporting a teacher-led approach.

6.2.5 Signs and reification

In all of the groups studied little distinction was made among staff and student in the use of signs (in this case the specific use of video to convey meaning) and reification (the creation of a meaningful artefact) so they are considered together here.

Where groups engaged with the specific language and structure of video as part of the process there was a link to creative experimentation in expressing meaning (or reification) in new ways. This was either supported in the pedagogy as specified, for example, where Group 4 studied different techniques in video presentation, or in the pedagogy as experienced, such as Group 1 working with a videographer who helped them to frame and edit their material. In these groups students experimented with visual effects, framing or different types of audio (music and voice) to use the medium creatively to express their ideas.

Reification produces an artefact from an abstraction and in doing so creates ‘points of focus around which negotiation of meaning becomes organized’ (Wenger 1998 p. 58). There were some differences in how students used video to create reified artefacts – as was seen in Chapter 5 there was a contrast between students who used images as a literal representation of the audio script and those who used more abstract or meaningful

images. There were two conditions in which the latter, which might be considered as a new 'points of focus' created through reification, was encouraged. Firstly, where the subject matter was particularly suited to visual representation, the use of images to convey ideas was a useful practical tool – for example, ManagementAcademic felt that in the study of local development 'it is always difficult to measure impacts in the community, to measure things like the use of space, you know, with standard tools so, and in the amount of time they have, so they go out and they use the visual tool to do that'. As a result of this the students in this activity included maps, photographs and moving images that they produced themselves to express the concepts covered in their video. The situated nature of the task made the gathering of these data possible. The second circumstances in which new meaning was made was where the purpose of creating meaning through image use was communicated to students and they were encouraged to be creative and experimental. In this study, CompAcademic2 told students that 'experimentation and play are really essential' and that 'there is always refinement, iteration back to a previous step and, perhaps, a total change of heart along the way'. This allowed students creative space to go beyond the literal and to be creative in interpreting and making meaning.

Where students did not see the academic merit in using images to create meaning, as was the case for Groups 2 and 3 here, there was a tendency for their use of images to simply illustrate the video script. This does not represent reification (in the form of making the abstract concrete) even though the students were, superficially, engaged in similar activities. As seen above, students' conceptions of learning can affect how they engage with an activity and so, in addition to identifying topics that night be particularly suited to visual representation, educators should explain the importance of process in media production, and of making meaning in forms other than words. This, combined with an emphasis on agency and creative freedom, would encourage learning through the creation of new meaningful objects.

6.2.6 Tools

Chapter 4 showed that tool use was identified as important by educators in the pedagogy as specified, with technical skills being among the learning outcomes in each case studied. There were differences in how this was presented and scaffolded for students that led to different outcomes in the development of skills and in whether tool use proved to be a barrier to learning, agency and creativity.

Students in all groups were required to develop skills in digital video and audio recording, image manipulation and video and audio editing using software. For Group 4 these skills were scaffolded and embedded as part of the activity with students being led through the process in the module material. Each process was described in detail with the students then being invited to work through the example with their own material. Through this process the activities completed built up into the file that was submitted for assessment. For this group engaging with the tools formed part of the activity scaffolded by the learning materials – in this model developing skills in tool use was a proactive activity. Students in this group reported no technical issues while working on the assessment – while this may be associated with the fact that the students in Group 4 were studying a technical topic and may be expected to have greater digital skills, there was no difference in their previous experience of using digital tools for media editing and production.

Tool use acted as a barrier to agency and creativity for each of the other groups. For them, the required technical skills were covered in one formal support session early in the activity. While extensive online support material was available and other sessions offered in the form of voluntary drop ins, these formed a model of reactive support for technical issues. Tool use for these groups was outside of the main module content and was separated in the learning outcomes. Where there were technical problems with tools use that frustrated students, these were overcome by support from an outside expert, through trial and error or through collaboration and dialogue among the group. The outside support observed in Critical Incident 3 showed that this model reduced student agency and participation – where collaborative problem solving occurred it was time consuming but represented a more participative pedagogy.

In order to reduce the barriers that technical issues represent to students, educators should design a proactive, scaffolded approach to the embedding of technical skills within the module curriculum. Scaffolding that allows students to then act agentively would also support a more informed problem-solving approach where issues did occur.

6.2.7 Creativity and imagination

As with the theme of agency above, the ability for students to be creative was connected to the extent to which the activity was teacher led, limitations on resources and the requirements of the assessment. Each of the activities required students to engage with the course material and outside sources (ranging from academic journal articles to observations of situated practice) to form imaginative connections to create new

meaning. While all academics expressed creativity as an important feature of the activity none of them assessed it in a structured way in the pedagogy as specified. While this might suggest that it was not considered to be central to pedagogy, each of the educators stressed that they did consider creativity when allocating marks, though the criteria for awarding these were often vague ('the timing of it for some reason flowed with the timing with their script'), which corresponds with findings from the literature (see, for example, Cowdroy and Williams (2006)). This reflects the view that creativity is difficult to measure in the quantitative terms required for summative assessment in HE and that assessment tends to focus on the output rather than the creative process.

For Group 4 this difficulty was openly acknowledged as the reason for omitting creativity from the marking scheme although there was an attempt made to assess the process by asking the students to submit artefacts describing how they had worked. This approach has some similarity with that described by Kleiman (2005) where he provides a framework for assessing the creative process through the submission of, and dialogue about, artefacts rather than simply judging the final output, but the timing of the submission meant that students treated this task strategically.

Throughout this study emphasis has been placed on the importance of process in video creation and, as discussed above, practitioners should scaffold activities in such a way that allows students to work agentively and creatively. They should acknowledge the importance to learning of the creative process and consider how it can be incorporated into and evidenced in the assessment process (see below).

6.2.8 Reflection

As seen in a number of the critical incidents presented in Chapter 5, in the pedagogy as experienced the collaborative process of storyboarding and editing allowed students to perform reflection in action, even though this was not prominent in the pedagogy as specified or enacted. Students took the opportunity to think about their work through collaborative dialogue and to amend it iteratively. This shows that the processes involved in media production encourage activities that support sociocultural concepts whether they are intended by the educator or not. This process of collaborative reflection in action was not available for the group working at a distance – here activities were structured in such a way as to stimulate reflection ('Take a second look at your list. Have you had new thoughts? Are there things you might like to change?') but the participative and dialogical

approach was not possible, meaning that the opportunities for learning from peers and making iterative changes were less.

Each of the activities presented an opportunity for reflection on action after completion of the video production phase. For Groups 1, 2 and 3 these were used by the academic as opportunities to differentiate between student in the assessment process (and for Groups 2 and 3 to encourage and reward participation) and so provided less opportunity for meaningful reflection. For Group 4 the post-activity reflection (in this case sharing videos and receiving feedback on them from the student group via discussions) had a different purpose – it allowed students to reflect on their own work and that of their peers and for their response to be considered as part of the assessment. The model here of collaborative peer review and alignment to the assessment made the activity meaningful for students and encouraged them to reflect on and consider how they had approached their own work, but did not allow them to shape it during the production phase.

Opportunities for reflection in action through collaborative production are a feature of media production activities that support student learning. Reflection on action, through review and sharing, can also be valuable but needs to be designed into the process as a genuine opportunity for reflective thought.

6.2.9 Process

As can be seen from the many interconnections between the themes considered above, and as discussed by Jenson et al. (2013) and Gravestock and Jenkins (2009), it is in the complete process of media production that the opportunities for participative, situated and collaborative learning occur. As seen in the critical incidents presented in Chapter 5, script production, editing and review are collaborative activities that encourage reflection. The use of video allows students to work imaginatively to create meaning using the signs and tools of the medium. The opportunities for situated learning allow students to develop a participative identity in the areas that they are studying.

While not expressed in these terms in the pedagogy as specified or enacted, there was a recognition by academics involved with Groups 1 and 4 of the importance of the process to student learning. While the approach of SportAcademic in Groups 2 and 3 suggested that she viewed the skills developed through this type of activity as the outcome of the process rather than the means by which learning takes place, the practice of the students showed that the nature of the activity allowed them occur spontaneously.

Educators should take a holistic view of the process of video production, acknowledging the ways in which, as outlined above, it is through participation in the full process that learning takes place. While cooperation can occur as part of a collaborative processes, and practical skills can be developed from this, it is through active participation and collaboration that the benefits of working in this medium can be experienced by the whole group.

6.2.10 Assessment

As was discussed in Chapter 2, students treat assessment strategically (Gibbs, 2019), so for a sociocultural approach to be successful the module material and activity have to be aligned with the module assessment. McCormack and Murphy (2008) noted that 'it is common… for constructivist rhetoric to underpin the specified curriculum, but to be noticeably absent from assessment of the curriculum' (p. 10) – as has already been discussed in this chapter this is true for this study.

While, for Group 1, ManagementAcademic placed an emphasis on the importance of process in the activity this was not reflected in the assessment criteria or practice for the module. Gravestock and Jenkins (2009) suggested that in order to assess learning that may not be apparent in the final video output that additional evidence should be used in assessment. In this case, while the additional material submitted did require the students to reflect on the content of the video that they had produced, the intention was to differentiate between students in the grading system rather than to consider the production and creative process. The fact that this approach was thought necessary illustrates the issues highlighted by Bayne et al. (2020) around how collaborative digital media production 'provokes important and complex questions for teachers about authorship, quality, and authenticity' (p. 63) that clash with notions of assessment validity and the individual nature of assessment in HE.

CompAcademic2's expressed scepticism around assessing creativity in Group 4 suggests two interesting points from a sociocultural perspective. Firstly, it acknowledges the importance of process in learning – creativity is not necessarily considered to be an outcome of the process, it is part of the process, and, secondly, it illustrates the problem with awarding credit on the basis of the 'quality of knowledge representation' (Bayne et al., 2020) in digital video projects quantitatively via grades. Adapting an assessment framework for measuring creativity similar to those in the creative arts (for example,

Kleiman (2005)) would help to deal with the issue of distributed authorship and in assessing the creative process.

In this study, where evidence for the process was included in assessment, the tension between the fact that this work was assessed, and that the assessment criteria were largely for compliance with the given format, led to the students treating the evidence (in the case of Group 4, a storyboard) as a separate element of the activity rather than as an important part of their creative work. This again highlights a tension between the process and the output when it comes to assessing video work and shows the students viewing assessment strategically and acting accordingly. This was reflected in the student comments where they suggested that this requirement seemed inauthentic. Activities that were embedded within the module material with the intention of scaffolding learning and helping with the development and creative processes (storyboarding and peer review) were treated, in some ways, as separate from the rest of the content because they were assessed. Submission of some of the artefacts of the process in advance of submission of the final output, with a reflection on how changes occurred between the two, would help to make this more meaningful.

6.3 Summary

The particular elements of a sociocultural pedagogy that are most prominent in video production activity are active participation, collaboration, agency, creativity and situated learning. While collaboration is central to sociocultural approaches this study found an inconsistency in how it was defined and viewed by academics and students. It was often viewed synonymously with cooperation and group work and was characterized as being problematic. Educators need to be aware of how collaboration, as defined by Dillenbourg et al. (1996), facilitates learning and ensure that their activity design supports this.

Sociocultural approaches, in offering agency to students, required them to self-regulate. This is more easily achieved where scaffolding is designed to be supportive rather than directive. Where scaffolding was too prescriptive it acted as a limit on student agency and creativity but where it was embedded in the activity and allowed students to act agentively it acted as a support for participation and creativity.

Some elements of sociocultural approaches that appear to be important from the literature are less common in practice – this is particularly the case for reflection, where

reflection in action occurred spontaneously among students, but where reflection on action required to be designed into the process.

A tension was evident in this study between the emphasis placed by academics on video production developing technical and employability skills (an output) and the sociocultural view of the technical tools as mediational means supporting reification (so an important part of the process). From a sociocultural perspective this seeming contradiction can be explained as the activity developing the students' emerging participative identities not only through familiarization with the signs and tools of the context, but also in terms of appropriate communication and practice and in creating relevant meaning through the medium of video.

As is shown in Table 6.1, the analysis showed that, in each case studied here, the deductive themes identified from Chapter 2 did not stand alone, but that there were interconnections between them. This highlights that the most significant inductive theme from the analysis was the importance of the overall *process* in digital video creation activities and that considering the process of video production as a whole is particularly important to its successful use as a learning tool. In this regard, assessment is problematic as it tends to focus on outcomes. The difficulty here is further compounded by the fact that many of those outcomes are difficult to measure. Educators need to consider the implications of their pedagogic approach and what is means for the validity of assessment. They can then consider ways of evidencing the process of video production and look to other disciplines for guidance on how to assess intangible features such as creativity, reflection and reification.

Table 6.1 – Summary of theme development through analysis

Theme	Summary of theme development
Deductive themes	
Scaffolding	The level of scaffolding provided for students was closely linked to student **agency** and **creativity**. Scaffolding that allowed agentive **active participation** encouraged creativity and engagement (Groups 1 and 4) while overly prescriptive scaffolding inhibited agency and caused students to act in a strategic way towards **assessment** outcomes (Groups 2 and 3).
Collaboration	Collaboration was ill-defined in each example of practice and was viewed in terms of an output (the development of

	team working and communication skills) rather than as a learning process. Where interactivity, synchronicity and negotiability were present (Dillenbourg et al., 1996) students collaborating in authentic **situated** environments **participated** actively and **reflectively** thus facilitating **creativity**.
Active participation and situated learning	Active participation and **situated learning** were very closely linked, particularly where they were facilitated in Groups 1 and 4. Participating in an authentic situation allowed students to begin to develop a participative identity. Through learning the **signs and tool use** of situations (such as language or norms) students began to form different identities. Participation was closely linked to **collaboration** as this development came through interaction.
Agency	As seen above, agency was closely linked to **creativity** and **scaffolding**. Agency was diminished through inappropriate scaffolding or conflicting **assessment** requirements.
Signs and reification	Little distinction was made in practice between signs and reification. The 'language' of video production (such as image framing, editing techniques and effects) were not distinguished from the meaning being made. Both were again closely aligned to **scaffolding**, **creativity** and **agency** – agentive practice (as seen in Groups 1 and 4) encouraged experimentation and abstraction in meaning making.
Tools	Tool use was influenced by the level and type of **scaffolding** and the relative importance placed on the **process** of video development. Where appropriate and embedded **scaffolding** was in place effective tool use encouraged **creativity**, but poorly supported tool use became a barrier to **agency** and creativity. Problem solving in tool use, however, promoted agency and **collaboration**.
Creativity and imagination	Creativity and **imagination** were linked to every other theme. Appropriate **scaffolding** and **active participation** promoted **agency** and creativity, with **situated learning** allowing students to make imaginative connections. **Tool use** was both an enabler and a barrier to creativity as was **assessment**, where it was ill-defined and not valued.

Reflection	Reflection in action was promoted by the **collaborative** dialogue required in the **process** of video production. Meaningful **reflection** on action was encouraged by post-production sharing and collaborative review.
Inductive themes	
Process	The interconnection and overlap of themes present above and summarised in this table demonstrates the importance of the overall process in video production activity. While each of the individual deductive themes can be shown to have been present in practice, the many interconnections show that the meaning and value of the activity is in its entirety rather than in breaking it down into granular parts or individual skills.
Assessment	The overall importance of **process** identified here presents problems for assessment and was not recognised in the grading of the video assessments considered. 'Traditional' academic values, which might touch on **signs**, **tool use** and emerging **participative** identity, took precedence while **collaboration** and **creativity** were less valued. This throws up questions around what is considered to be important and how it is recognised in existing assessment systems.

Chapter 7 now moves on to conclude this study and to consider the implications for practice of the findings from Chapter 4 and 5 and the discussion here.

Chapter 7 Conclusions

This chapter brings this study to a close by, firstly, considering the contribution made to knowledge in the field of digital video use in higher education (HE) before moving on to consider the limitations of the study. A number of recommendations for practice are then presented before some potential areas for further research are identified.

7.1 Contribution to knowledge

This study identified practical elements that would be present in a pedagogy influenced by sociocultural theory and went on to create from these a model that was used to perform a critical review of the pedagogy of video use in HE. From this it was suggested that digital video production provided affordances that would allow a situated, active and collaborative pedagogy to be enacted. As was seen in Chapter 2, the literature on student media production is sparse and the focus on sociocultural approaches taken here is new.

Of the literature on student-produced media that is available, most of it is presented from the point of view of practitioners. Where student views have been sought it has been after completion of the activity. The approach taken here, where the work undertaken by students was observed as it took place is unique and presents an analysis of the activity undertaken by students completing media-production assignments for the first time.

The findings presented emphasize the importance of the whole process of video production and show how taking a sociocultural approach to digital video production activity offers learners a collaborative, participative and situated learning experience offering opportunities for creative meaning making and reflection. In this model, collaboration is participative and situated, bringing together diverse views and offering opportunity for dialogue and reflection. To support this, scaffolding is thoughtfully designed, is aligned with the assessment, and is removed during the course of the activity to allow students to act agentively and creatively.

The study has also identified approaches to media production work that act as barriers to the process. This happened where collaboration was ill-defined and vaguely conceived as group work, where scaffolding was too directive and where overly restrictive assessment

criteria inhibited agency and creativity so that reification through image use did not produce new meaning. In these conditions active participation and opportunities for situated learning, and, therefore, chances to shape identity and understand sign use in a specific environment were restricted.

As well as having implications for staff and student practice, the study has identified implications for the design and grading of media production assessments. There are two major issues here: firstly, as has been seen, digital media production is a collaborative activity where traditional notions of authorship may be unclear and this can cause problems for university grading structures and academic integrity; and secondly, the recognition of the importance of the production process to learning leads to questions around where to focus assessment grading and feedback. These issues are considered in the recommendations for practice presented below.

7.2 Limitations of the study

As mentioned in Chapter 3, as a qualitative research project, this thesis acknowledges the importance of the particular contexts of the activities studied and the interpretations of the researcher. It is the responsibility of the reader to assess the transferability of the study and its applicability to their situation. The description of the methodology used, the context in which the activities occurred and the framing of the analysis should all help in this decision-making process.

As stated in the Introduction and emphasized throughout, this thesis takes a specific theoretical approach to the subject matter. While the arguments for doing so are laid out extensively, particularly in Chapter 2, there are, of course other interpretative lenses through which the data gathered could be viewed.

The study has also focused on a particular use of digital video, namely a specific form of collaborative media production. While, in Chapter 2, there was critique of the pedagogy behind the use of video as content, this study has not considered how a sociocultural approach could be applied to existing material, such as critiquing and commenting on videos or the remixing of digital content to express new meaning. The focus on individual videos of around 5-10 minutes has also not allowed consideration of the possibilities of the use of short-form, individualistic videos, like those available on platforms such as TikTok or Flipgrid, or longer series of videos, such as vodcasts.

7.3 Recommendations for practice

Practitioners, both in the literature and in this study, have placed an emphasis on the process of digital video production being more important than the output. There is a recognition that the value for learning is in how it facilitates practices (which can be characterized as following a sociocultural approach) that allow students to engage with the topic, collaborate with colleagues and think about how to create and present knowledge artefacts in a different way.

Recommendation 1: Video production activity should involve active participation in a situated and authentic context allowing students to learn through taking part and learning with and from others. The context should be appropriate to the resources available and can be simulated if required.

Video production is an active and often collaborative process and, if designed well, allows students to act with agency and to be creative and reflective. Effective learning design of student-produced video activities can enable these characteristics and allow them to facilitate student learning across subject domains.

As seen in Sections 5.1 and 5.3, active participation in a situated and authentic context is particularly effective. It allows students to put their learning into perspective and can take the form of engagement with external environments, organizations or individuals or, where this is not possible, via a simulation of a 'real world' context. As well as being an engaging and motivating factor for students, participative and situated learning allows learners to develop identity within the context of their learning.

Recommendation 2: Practitioners should be clear about the distinctions between collaboration and group work (along the lines of Dillenbourg et al. (1996)), and should know when each approach is appropriate. They should make a positive case for using a collaborative approach sharing their rationale with students.

The implication of a participative and situated pedagogy is that it is collaborative. Collaboration is interactive and synchronous and allows students to learn through dialogue and reflection, but, as seen in Chapter 4 for each of the groups considered here, is often ill-defined by educators and can cover conceptualizations of cooperation and group work. In addition, collaboration is characterized by both teachers and students as problematic. However, as shown in critical incidents presented in Sections 5.1 and 5.2,

the nature of video production can allow for truly collaborative working – especially for participative, situated tasks. Where collaboration in video production is not possible, collaborative working can be built into the process, for example through peer review and feedback at a formative stage in the activity (storyboarding or an early version of the video).

The notion of collaborative working as being problematic is focused around two related areas. The first of these – that at institutional level it questions notions of authorship and reliability in assessment – is addressed in recommendations made below. The second is that at the student level, it raises issues around different levels of contribution. In each group considered here academics have developed strategies designed to mitigate this, either by designing individual or peer review elements into the assessment or by re-allocating tasks. The problem with both of these approaches is that they either perpetuate the view of collaboration as problematic or mean that not all students can participate fully. In addition to measures around assessment that are discussed below, in order to avoid both of these issues, practitioners could share with students their rationale for using a collaborative approach, promoting it as central to a participative, situated approach. This should also acknowledge that participation can vary depending on the stage and confidence of the students and that differential participation may be part of the learning process. In order to clarify expectations and to demonstrate that the activity is a shared endeavour, a clear definition of collaboration, emphasising interaction, synchronicity and negotiation (Dillenbourg et al., 1996) should also be shared with students.

Recommendation 3: Activities should be scaffolded in ways that support students' agency and creativity and help them to develop skills in self-regulation.

This study has shown, in the comparison between Groups 2 and 3 and Groups 1 and 4 presented in Chapter 5, that there is a link between the level and type of scaffolding provided by academics and student agency and creativity. In a sociocultural approach agency, creativity and imagination contribute to students making meaning through reification – an approach that this thesis argues is an affordance of video production activity. In addition, agency is linked to active participation and to the development of students' participative identities. The ability to act agentively requires that students have skills in self-regulation.

Where activity is heavily scaffolded, and particularly where assessment criteria are very detailed, students are encouraged to take a surface approach and to reproducing knowledge in the way required by the teacher rather than to act agentively in the creation of new meaning. Scaffolding should be embedded in activities in ways that are supportive rather than directive and should model rather than dictate practice, lessening as the activity progresses. This will support student self-regulation, agency and creativity.

Recommendation 4: Assessment activity should be embedded in and aligned to the module content, not separate from it.

The embedding of assessment activity within the module material, either through the completion of activities (as in Group 4) or through engagement in the practice of situated learning (Group 1) allows the student learning to be scaffolded as part of a situated, participative pedagogy. As one of his 'conditions under which assessment supports student learning', Gibbs (2019) suggests that we should consider whether assessed activity results in students taking a deep approach (attempting to make sense) or a surface approach (trying to reproduce) and considers that 'appropriate, engaged and productive learning activity' supports the former. Combining the assessed activity directly with the module content will, therefore, support students in taking a deep approach.

Recommendation 5: As part of the embedding of assessment activity in the module content the technical skills required to produce the video should also be scaffolded directly in the activity.

According to sociocultural theory, tools and signs are the mediational means through which we create and share meaning and knowledge. The complex tool use required for video production was identified in this study as a potential barrier to students' creativity and agency. The development of technical skills was seen by educators as an important outcome to the activities and was linked with student employability, but it was a often a secondary consideration rather than central to the making of meaning, with the primary outcomes being subject based. As seen in Group 4 here, where the use of digital media to produce meaning was a central outcome of the module, and where the tool use was embedded directly in the activity embedded in the module material (for example, teaching about copyright and licensing through the process of downloading software), technical problems were fewer despite similar restrictions on software and hardware. For students who are interested in developing subject knowledge and whose primary

motivation is not to learn video production skills, embedding these skills within the activity – for example, by including an activity that in week one requires students to conduct a 5-minute interview with a subject in the field and, in week two, attend a workshop where the interview is edited – would scaffold these skills in a way that formed part of the activity.

Recommendation 6: Opportunities for reflection should be given prominence in the activity design. This might be in the production process, for example during editing, or in a peer review activity.

Reflection was identified as an important element of a sociocultural approach to pedagogy but was absent from the considerations of the academics supporting most of the activities studied here. As was seen in the literature review – and in the practice of the groups – however, both reflection in action and reflection on action are facilitated by video creation activities, for example, through the video and audio editing process (as seen in Critical incident 5) or through supported peer review sessions. Allowing students opportunities for reflection helps them to contemplate their own thinking and activity (metacognition), and, in the case of peer review, to consider these in relation to the work of others. This also supports the development of skills in self-efficacy and self-regulation identified above – McCormack and Murphy (2008) argue that 'metacognition, with its operative and self-regulatory elements, requires students to develop an awareness of learning, and to achieve this they need an involvement in reflecting on their learning. Without some element of self-assessment, this awareness cannot be developed. Self assessment, present in, for example, peer assessment … is central to the development of a strategic approach to their learning' (p.12).

Recommendation 7: Staff development opportunities should be made available to practitioners to consider the definition and characteristics of sociocultural pedagogy and its implications for assessment. These definitions, characteristics and implications should also be discussed with students.

One of the main themes generated both from the literature review and from the analysis presented in Chapter 5, and was particularly demonstrated in Critical incident 6, was the role that assessment plays in guiding student participation in digital video creation projects. As discussed above, the importance of the process of video development in student learning was emphasized, but a conflict was identified with the need within HE

for quantifiable assessment outcomes and a tendency to grade the final output that does not take into account the fullness of the students' learning. In addition, the collaborative nature of video creation poses questions around the validity of assessment, both from the perspective of recognizing individual contribution (a traditional concern in group work) and in terms of identifying and attributing authorship more widely.

This study has demonstrated the tension between process and assessment highlighted by McCormack and Murphy (2008) who contend that, from a sociocultural perspective, assessment 'would encompass… shared understanding' and 'would make group assessment a central issue, rather than an issue of continual conflict with national assessment systems that overwhelmingly reward individual, rather than group, achievement' (p. 11).

From this study, the importance of individual reward is not just required by 'assessment systems' but is seen as important by all of the students and staff interviewed. There is a requirement for educators to engage 'in ongoing discussion with students about the purpose and expectations of… multimodal assignment' (Bayne et al., 2020, p. 51) and to promote 'an assessment culture that emphasises collaboration in which learning and assessment are integrated, rather than a focus on individual competition' (Timmis et al., 2016, p. 464). The fact that this study showed that mitigation was put in place to differentiate individual marks for collaborative projects suggests that there is a requirement for development work with staff on defining, designing, supporting and therefore, assessing, participative, situated, collaborative work.

Recommendation 8: The role of digital media in the creation and communication of academic knowledge should be acknowledged and shared with students.

While digital video creation might allow academics to offer 'new, highly creative ways for students to represent what they know for the purposes of assessment, sharing and evaluation' (Bayne et al., 2020, p 51), Chapter 5, and, in particular, Section 5.2, showed that some students were reluctant to embrace video as a medium for academic expression, preferring instead the written word. While Bayne et al. (2020) contest that 'allowing, or even requiring, students to look to genres and modes beyond text prompts them to think both critically and creatively about what it means to represent academic knowledge' (p. 51) they acknowledge, based on the findings of earlier research, that 'the possibility exists that teachers might be more enthusiastic about embracing multimodality

than students, who may be reluctant to experiment with the “dubious” and “disposable” digital form, particularly in the high-stakes assessment setting where the tried-and-tested essay approach might seem considerably less risky’ (pp 53-54). In this study some students did not see the academic value of video production activity and would rather have completed a more traditional form of assessment such as an essay. These groups had the least opportunity to engage in a participative and situated activity, and for them the value of creating a video was characterized in terms of skills development and employability. Providing students with the rationale behind the use of video as a medium for academic expression would help to bridge the gap to traditional assessment practices.

Recommendation 9: A framework for the assessment of student-produced video should be developed. This should reflect the importance of ‘process’ in assessing learning in participative, collaborative and creative activities.

Both in the literature review and in the critical incidents presented in Sections 5.1 and 5.2, this study has emphasized the importance of process in contributing to learning in student-produced video projects but it has also shown that assessment grading of this work is focused largely on the students’ outputs. Possible reasons for this include the educators’ approach to pedagogy and the difficulty of assessing process and creativity. Increased use of technology to support assessment has been in ways that have ‘replicated traditional modes of assessment as a way of measuring knowledge acquisition (conceptual learning), as opposed to focussing on the demonstration of students’ skills and competencies through the performance of authentic tasks’ (Walker and Jenkins, 2019, pp 164-165). From a sociocultural perspective, ‘if we are to take seriously the ideas on interpretations of tasks by students, and hence some caution in interpreting their responses, then we cannot judge validity only in terms of content’ (McCormack and Murphy, 2008) and so a framework for judging the learning process rather than just the output needs to be developed.

While ‘it is reasonable to assume that teachers who served their academic apprenticeship in the predominantly text-oriented humanities might not feel they have the repertoire of interpretive skills to measure the quality of an assignment where argumentation is presented through an orchestration of language, image, sound, or any other modes and media’ (Bayne et al., 2020, pp. 67-68) attempts have been made in the assessment of the creative arts to develop a framework that foregrounds the creative process (for example

Kleiman (1995)). This includes assessing not just the quality and the academic content and of the final product but also includes evidence of how creative ideas were conceived, executed and revised. For a video project this might include elements such as the submitted video, supporting documentation (such as research plans, development scripts, storyboards and reflective accounts) and interviews where students articulate their development process and creative decision making. Some of these issues might be made easier with the embedding of the assessment activity within the module delivery, thus allowing the educator more insight into the development process, but there remains a requirement for the development of broad criteria for the assessment of student-produced video.

7.4 Recommendations for further study

This study has begun the process of considering the use of digital video production in HE from a sociocultural approach. In the course of the study a number of different topics have arisen that it would be useful and interesting to study further.

- Part of the motivation for this study was to consider how sociocultural theory could be represented in a practical pedagogy. The themes identified in Chapter 2 as representing the manifestation of a sociocultural approach could be developed further from the literature to create a framework for sociocultural learning design.
- This is the first study that has observed and analysed the activity of students as they worked on media production projects. Additional studies taking a similar observational approach in different contexts would be useful to further develop the themes and conclusions presented here.
- Two points of particular importance were developed in the findings of this study – the centrality of the process of media production to learning and the requirement for assessment to reflect this. Further work that developed and tested assessment frameworks that incorporate all aspects of the production process would be useful to guide and evaluate student work.
- Students conceptions of learning affected how they participate in and value learning activities. As, in the wake of the COVID19 pandemic, HE moves into a new phase of teaching where technology becomes more important it would be interesting to consider how a move to student-centred approach where

technology is used for production as well as consumption of media affects these conceptions.

- This study showed that participation in collaborative video production activities (scripting, filming and editing) was valuable for providing opportunities for active participation, collaboration and reflection among students. This was not possible for students studying at a distance where collaborative activities took place once the video production was complete. A study of students using online collaborative media editing environments for video production would be valuable to see if this facilitated the same kind of collaborative and reflective activity that occurred in face-to-face settings.

7.5 Concluding summary

This thesis has applied a novel theoretical approach to the use of digital video in higher education. It has identified specific elements of practice that would be present in a pedagogy supported by a sociocultural approach and has used these to analyse both the literature of video use in HE and the practice of the academics and students studied here. It has also, for the first time, applied to the use of digital video a three-stage model of analysing pedagogy and as part of this has, importantly and uniquely, considered students' activity and conceptions (or pedagogy as experienced) in the process of video creation. It has done this through a combination of qualitative approaches designed to present a coherent description and analysis of the situations being studied.

The study has found that video creation activities can support a sociocultural approach to pedagogy, with a well-scaffolded production process facilitating active participation, situated learning and collaboration and encouraging agency, creativity and reflection. It has also identified pedagogic and practical barriers to effective learning through video creation and has made recommendations on how these might be overcome. In doing so the thesis has achieved its aim in answering the question of how digital video can be used to support a sociocultural approach to teaching and learning in higher education (HE).

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Appendices

Appendix 1 – Sample questions from semi-structured interviews

Interview with CompAcademic2

Can you let me know the background of how you came to be involved in writing this section of [the module]?

What is the process for developing a section of a module? (editing, approval, etc)? Team working?

What were the intentions behind this section?

Why responses? Why not a video on a topic?

What do students get out of creating and sharing objects?

Why incorporate into [assessment]?

Own images and recording v supplied stuff?

Why still images?

Storyboarding?

Creativity – important? Not really covered in [assessment]?

Interviews with Group 1 students

Course materials

- how did this inform the script and images?
- How were interview questions drawn up (mind map)?
- Based on theory?
- Feed into essay & dissertation?
- Designing research project?
- How closely did they stick to task outline?

Use of images

- What do they understand by visual data?
- How did they choose images?
- How to convey meaning?

Group working

- collaboration, cooperation, issues, roles, learning from each other?
- How did it compare with other group projects?

Communication

- How was this managed? Facebook, email, sharing images, script?

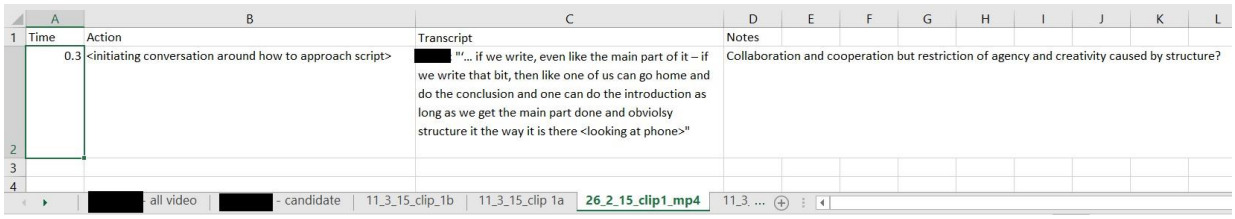
Engagement with organisation (events and contact with [director])

Technical and practical issues.

- Learned skills in this area? Camera, editing, image selection, audio, etc.
- How did the last weekend go?
- How did they choose tools (camera, etc) and software?
- Time (compared to written work)? Juggling with other projects?
- Motivation, interest?

Appendix 2 – Sample video catalogue for Group 3

A sample of the video catalogue for Group 3. The name of a student participant and a module identifier have been obscured.

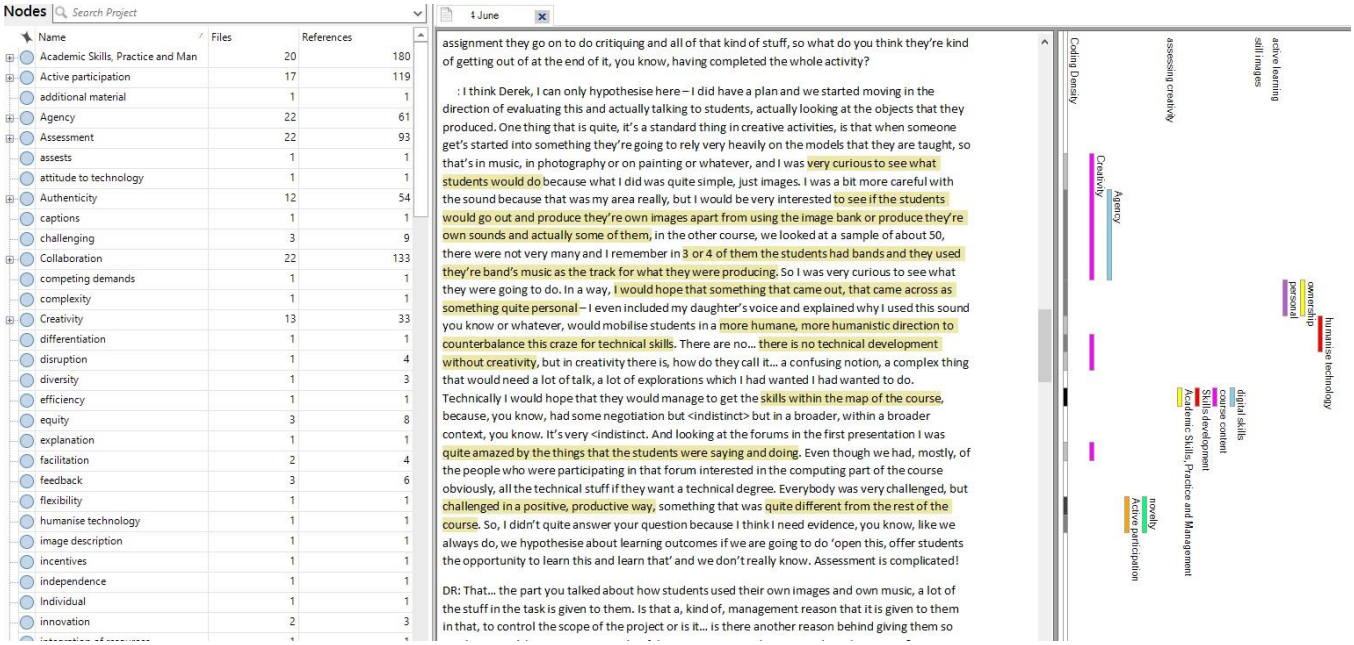


	A	B	C	D
1	Time	Action	Transcript	Notes
2	0.3	<initiating conversation around how to approach script>	[redacted] "'... if we write, even like the main part of it – if we write that bit, then like one of us can go home and do the conclusion and one can do the introduction as long as we get the main part done and obviolsy structure it the way it is there <looking at phone>"	Collaboration and cooperation but restriction of agency and creativity caused by structure?
3				
4				

[redacted] - all video | [redacted] - candidate | 11_3_15_clip_1b | 11_3_15_clip 1a | 26_2_15_clip1_mp4 | 11_3. ...

Appendix 3 – Sample NVivo coding

An example of an interview with CompAcademic2 coded in NVivo, showing codes, nodes and highlighted coding. The name of the interviewee has been obscured.



Nodes

Search Project

Name	Files	References
Academic Skills, Practice and Man	20	180
Active participation	17	119
additional material	1	1
Agency	22	61
Assessment	22	93
assests	1	1
attitude to technology	1	1
Authenticity	12	54
captions	1	1
challenging	3	9
Collaboration	22	133
competing demands	1	1
complexity	1	1
Creativity	13	33
differentiation	1	1
disruption	1	4
diversity	1	3
efficiency	1	1
equity	3	8
explanation	1	1
facilitation	2	4
feedback	3	6
flexibility	1	1
humanise technology	1	1
image description	1	1
incentives	1	1
independence	1	1
Individual	1	1
innovation	2	3

4 June

assignment they go on to do critiquing and all of that kind of stuff, so what do you think they're kind of getting out of at the end of it, you know, having completed the whole activity?

: I think Derek, I can only hypothesise here – I did have a plan and we started moving in the direction of evaluating this and actually talking to students, actually looking at the objects that they produced. One thing that is quite, it's a standard thing in creative activities, is that when someone get's started into something they're going to rely very heavily on the models that they are taught, so that's in music, in photography or on painting or whatever, and I was very curious to see what students would do because what I did was quite simple, just images. I was a bit more careful with the sound because that was my area really, but I would be very interested to see if the students would go out and produce they're own images apart from using the image bank or produce they're own sounds and actually some of them, in the other course, we looked at a sample of about 50, there were not very many and I remember in 3 or 4 of them the students had bands and they used they're band's music as the track for what they were producing. So I was very curious to see what they were going to do. In a way, I would hope that something that came out, that came across as something quite personal – I even included my daughter's voice and explained why I used this sound you know or whatever, would mobilise students in a more humane, more humanistic direction to counterbalance this craze for technical skills. There are no... there is no technical development without creativity, but in creativity there is, how do they call it... a confusing notion, a complex thing that would need a lot of talk, a lot of explorations which I had wanted I had wanted to do. Technically I would hope that they would manage to get the skills within the map of the course, because, you know, had some negotiation but <indistinct> but in a broader, within a broader context, you know. It's very <indistinct. And looking at the forums in the first presentation I was quite amazed by the things that the students were saying and doing. Even though we had, mostly, of the people who were participating in that forum interested in the computing part of the course obviously, all the technical stuff if they want a technical degree. Everybody was very challenged, but challenged in a positive, productive way, something that was quite different from the rest of the course. So, I didn't quite answer your question because I think I need evidence, you know, like we always do, we hypothesise about learning outcomes if we are going to do 'open this, offer students the opportunity to learn this and learn that' and we don't really know. Assessment is complicated!

DR: That... the part you talked about how students used their own images and own music, a lot of the stuff in the task is given to them. Is that a, kind of, management reason that it is given to them in that, to control the scope of the project or is it... is there another reason behind giving them so

Coding Density

assessing creativity

active learning
still images

Creativity

Agency

ownership
personal

humanise technology

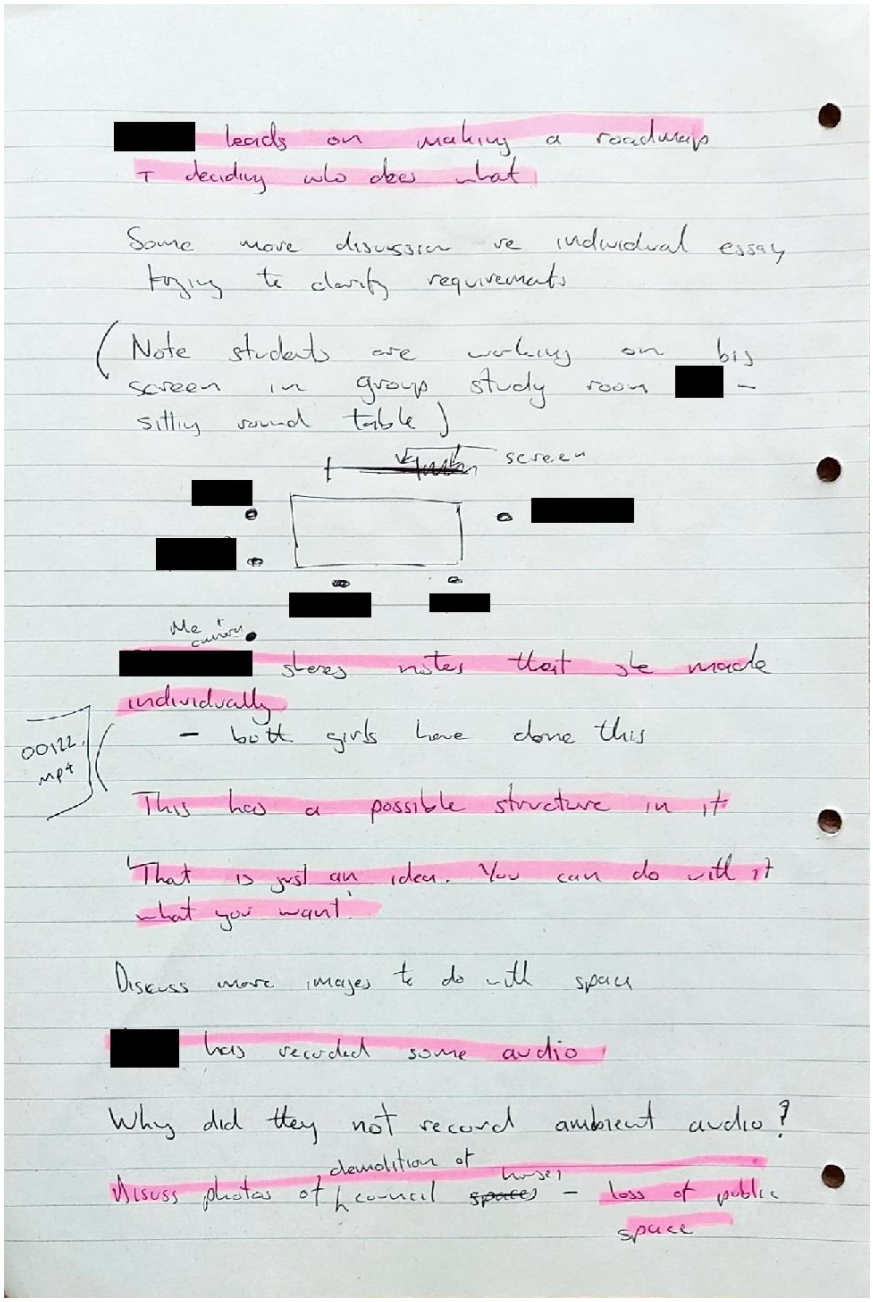
digital skills
course content
Skills development
Academic Skills, Practice and Management

novelty
Active participation

Appendix 4 – Sample of written field notes

Sample field notes from Group 1

Names have been obscured. Marginal notes indicate timings and the file names of corresponding video recordings. Pink highlights represent the first pass of identifying critical incidents (as described in Chapter 3).


[redacted] leads on making a roadmap + deciding who does what

Some more discussion re individual essay trying to clarify requirements

(Note students are working on big screen in group study room [redacted] - sitting round table)

screen

[redacted]

Me, camera

[redacted] shows notes that she made individually

00122.mp4

- both girls have done this

This has a possible structure in it

That is just an idea. You can do with it what you want.

Discuss more images to do with space

[redacted] has recorded some audio

Why did they not record ambient audio?

Discuss photos of demolition of houses/council ~~space~~ - loss of public space

Linked to something they learned last year

[redacted] has some kind of handheld dictionary / translation devices

[redacted] makes a contribution re structure.

[redacted] making notes

Discuss some of the theory

S4 coming in + no plan yet!

Discussions continue - - -

[redacted] has found a paper

↳ based on journal that [redacted] mentioned in lecture.

Tina adds a point to [redacted]'s list

'How does it fit with what we have already to use'

↳ they have created resources (photos, interviews, etc, before making structure/ narrative)

Discussions just now are around the ideas + information in [redacted]'s lecture + stuff they have found in papers

Appendix 5 – Example of participant permission form

Title - The uses of digital video in Higher Education: a sociocultural approach

Researcher – Derek Robertson

Agreement to Participate

- I agree to take part in this research project.
- I have had the purposes of the research project explained to me.
- I have been informed that I may withdraw from the study at any point up to the point when the research data are anonymised.
- I have been assured that my confidentiality will be protected and all data stored anonymously.
- I agree that the information that I provide can be used for educational or research purposes, including publication.
- I understand that if I have any concerns or difficulties I can contact Derek Robertson at [e-mail address] or [tel. number] or Rebecca Ferguson at the Open University [e-mail address]

Participant

Print name:

E-mail address:

Signed: Date:

Researcher

Signed: Date:

Appendix 6 – Transcripts of Critical incidents

The following are transcripts for the Critical Incidents presented in Chapter 4

Critical Incident 1

ManStudent4: I think public space has not disappeared. It's not like [interviewee] said, it's more like the government has used public space to give to the private sector. So they used some public schools and transferred them to the private sector and the private sector does not use those spaces for public objectives. So this is the problem, because private is always separate from the public areas, so they are only concerned about their benefits not the community benefits.

ManStudent5: Yeah, and that was [interviewee's] point, because it's not open for the public.

ManStudent1: Because if you pursue…

ManStudent4: They've not disappeared, they still exist.

ManStudent1: That is a question – I would argue…, you can argue both sides. You can have your argument but, on the other hand, there are a lot of people who would argue that by privatising it you make it exclusive, so when the government gives the public space away into private hands it's automatically going to be linked to a certain bias from the person who owns the place. So that's what we had last semester, you know, with the corruption when you make a non-market good a market good, you corrupt the values that are linked to it. That's the whole idea that we had last semester. So that's the link, if you privatize public spaces they can become exclusive if it is in the owner's interest. So it could be still a public space officially, but it becomes exclusive of a certain part of people because of the private interest behind it.

ManStudent4: Yeah, yeah, yeah.

ManStudent1: So the simple fact that it is privately owned corrupts the values of when it was a non-market good.

ManStudent4: Yeah

ManStudent1: So you could probably argue it from both sides. I don't know. What do you guys think?

ManStudent4: I agree with what you said.

ManStudent2: I think I agree.

ManStudent1: I need to remember that one!

Critical Incident 2

ManStudent1: What do you guys have?

ManStudent3: I've just tried to put the order of the pictures for the script and, obviously I want to show what space – <reading> "and the one problem with space", blah, blah, blah – that's from [ManStudent2's] article… but you also bring <pointing at one of the images on the table> that they've knocked down that community centre and they need an opportunity to make a connection so <reading> "so people from different cultural groups can come together in supporting…" blah, blah, blah, so we have to highlight…

ManStudent1: I used that part as well, so I have the same thing basically…

ManStudent3: Then I want to quote the interview <reading from transcript> 'the importance of the creation of space by the social enterprise'. Basically from interview 1. <Flicking through interview transcript>. Then we have to highlight the point <pointing at an image on the table>, because we have a variety of places that they work, either we can use the original map or the other map.

ManStudent1: Yeah, I know that map.

Critical incident 4

SportG3-Student2: Can you take it out and put it in there?

SportG3-Student4: <highlighting the whole timeline in the audio editor> Oh no!

SportG3-Student2: <*laughing*> Don't delete all of it! <*listening to play back*> Right, shut me up, OK!

SportG3-Student4: <*listening to play back*> Right, so it's somewhere round here

SportG3-Student2: Stop! Then I'll do that bit 'Zumba contributes…'

SportG3-Student4: <highlighting a point on the timeline timeline> To there?

SportG3-Student2: Yeah, try that

SportG3-Student4: Let's record it first and…

SportG3-Student2 : Yeah

Critical incident 5

SportG3-Student4: I think we should leave this bit out because you could add the <*indistinct*> but into that and just put it all as one big paragraph and just say that they're not going to push the kids as hard. It's not going to be, like, it's not going to be a hard…'

SportG3-Student3: See, but they're contradicting themselves because they're saying 'Ditch the workout, join the party' and 'by the way, you're going to lose lots of calories'. And that's work out based.

SportG3-Student4: 'Yeah. <*pause*> Why don't we take out the 'join the party thing' and just don't… because I think that could be why it's not in schools

SportG3-Student2: <*typing on tablet and speaking the words aloud*> This does not align with the aims of the Curriculum for Excellence as the…'

SportG3-Student4: I would go more along the lines of the weight loss 'at a very young age schools don't want that' and then see the bit about body image and the girls...

SportG3-Student2: So what do we put?

< SportG3-Student4 is looking at a journal article displayed on the screen>

SportG3-Student4: Just say 'However…

<SportG3-Student2 slides the tablet over to SportG3-Student4 and she begins typing>

SportG3-Student2: <*looking at the tablet screen*> Yeah, I see what you are saying – it makes you think about body image but the schools don't really want that they just want …. They don't want that to be an issue'.

Critical Incident 7

SprtG2Student1: ‘So I went to the [title] conference yesterday and got some stuff and I actually managed to get a one-on-one interview with [sports woman]. I just wanted a wee soundbite or something, but we end up chatting for about 20 minutes. I've gone through the interview today and just sort of noted down stuff we could use. I'm sure whatever I can get from that, it will be hopefully extra brownie points that we got her on tape….’

‘She was discussing things like it should be a top-down approach, it should be from... the question is 'what is being done' I think, and she is saying what she thought should be done, so that could maybe be a good thing in the conclusion or something. Because she was saying it should be a top-down approach, it should come from government and then down to governing bodies and then to club level and stuff like that. I listened to it again and picked out things that I thought would be good to use. So as long as everyone is cool with that it seemed like a good way to go.’

Critical incident 8

SportG3-Student3: ‘This is so painful’

SportG3-Student4: <playing back a section> ‘Is that right?’

SportG3-Student3: ‘No, that’s not how that paragraph ends. <pause> Oh, for fuck’s sake!’

SportG3-Student4: ‘It’s so hard’.

SportG3-Student3: ‘Why can’t we go Introduction, then cut the gaps at the start and then…, rather than putting it all together. There’s no need for this.’

SportG3-Student4: ‘Oh my God!’

SportG3-Student3: ‘Cross all this off and …

SportG3-Student4: ‘That’s what we were doing first.’

SportG3-Student3: 'Cross all this off and go to Introduction ... delete ... we’ll just make a rule up that we leave one second at the end of each paragraph to make a gap.’